



# 9

Sequence Listing

<110> Baker, Kevin P.

Botstein, David

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Eaton, Dan I.

Ferrara, Napoleone

Fong, Sherman

Gao, Wei-Qiang

Goddard, Audrey

Godowski, Paul J.

Grimaldi, Christopher J.

Gurney, Austin L.

Hillan, Kenneth J.

Pan, James

Paoni, Nicholas F.

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Ser Met Gly Cys Ala Phe Ile Asn Leu Cys Ile Leu Ala Ser Gln

65 70 75

His Ala Trp Ala Gln Leu Thr Phe Trp Glu Ala Ser Gln Leu Tyr

80 85 90

Leu Leu Phe Leu Ser Leu Thr Leu Ala Thr Val Asn Ala Arg Trp

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Leu Glu Pro Arg Thr Thr Ala Ala Met Trp Ala Leu Gln Thr Val

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Glu Lys Glu Arg Gly Leu Gly Gly Glu Val Pro Gly Ser His Gln

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Ser Ala Leu Arg Gln Asn Phe Phe Arg Tyr His Gly Leu Ser Ser

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 tatgaaattg gccgatttca agaacacatc tccttttcaa ccccatcct 1150  
 tatctgctcc aacctggact catttagatc gtgcttattt ggattgcaaa 1200  
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 ctttgaaaag gagggctgga atggtacatc acataggcaa gtctgcct 1300  
 gtatttaggc ttgcctgct tgggtgatg taagggaat tgaaagactt 1350  
 gccattcaa aatgatcttt accgtggcct gcccattgct tatgtcccc 1400  
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 aaaaaaaa 1508

<210> 10  
 <211> 319  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> sig\_peptide  
 <222> 1-17  
 <223> Signal Peptide

<220>  
 <221> misc\_feature  
 <222> 36-47, 108-113, 166-171, 198-203, 207-212  
 <223> N-myristoylation Sites.

<220>  
 <221> misc\_feature  
 <222> 39-42  
 <223> Glycosaminoglycan Attachment Site.

<220>  
 <221> TRANSMEM  
 <222> 136-152  
 <223> Transmembrane Domain

<220>

<221> misc\_feature

<222> 161-163, 187-190 and 253-256

<223> N-glycosylation Sites.

<400> 10

Met Leu Phe Trp Val Leu Gly Leu Leu Ile Leu Cys Gly Phe Leu

1 5 10 15

Trp Thr Arg Lys Gly Lys Leu Lys Ile Glu Asp Ile Thr Asp Lys

20 25 30

Tyr Ile Phe Ile Thr Gly Cys Asp Ser Gly Phe Gly Asn Leu Ala

35 40 45

Ala Arg Thr Phe Asp Lys Lys Gly Phe His Val Ile Ala Ala Cys

50 55 60

Leu Thr Glu Ser Gly Ser Thr Ala Leu Lys Ala Glu Thr Ser Glu

65 70 75

Arg Leu Arg Thr Val Leu Leu Asp Val Thr Asp Pro Glu Asn Val

80 85 90

Lys Arg Thr Ala Gln Trp Val Lys Asn Gln Val Gly Glu Lys Gly

95 100 105

Leu Trp Gly Leu Ile Asn Asn Ala Gly Val Pro Gly Val Leu Ala

110 115 120

Pro Thr Asp Trp Leu Thr Leu Glu Asp Tyr Arg Glu Pro Ile Glu

125 130 135

Val Asn Leu Phe Gly Leu Ile Ser Val Thr Leu Asn Met Leu Pro

140 145 150

Leu Val Lys Lys Ala Gln Gly Arg Val Ile Asn Val Ser Ser Val

155 160 165

Gly Gly Arg Leu Ala Ile Val Gly Gly Gly Tyr Thr Pro Ser Lys

170 175 180

Tyr Ala Val Glu Gly Phe Asn Asp Ser Leu Arg Arg Asp Met Lys

185 190 195

Ala Phe Gly Val His Val Ser Cys Ile Glu Pro Gly Leu Phe Lys  
200 205 210

Thr Asn Leu Ala Asp Pro Val Lys Val Ile Glu Lys Lys Leu Ala  
215 220 225

Ile Trp Glu Gln Leu Ser Pro Asp Ile Lys Gln Gln Tyr Gly Glu  
230 235 240

Gly Tyr Ile Glu Lys Ser Leu Asp Lys Leu Lys Gly Asn Lys Ser  
245 250 255

Tyr Val Asn Met Asp Leu Ser Pro Val Val Glu Cys Met Asp His  
260 265 270

Ala Leu Thr Ser Leu Phe Pro Lys Thr His Tyr Ala Ala Gly Lys  
275 280 285

Asp Ala Lys Ile Phe Trp Ile Pro Leu Ser His Met Pro Ala Ala  
290 295 300

Leu Gln Asp Phe Leu Leu Leu Lys Gln Lys Ala Glu Leu Ala Asn  
305 310 315

Pro Lys Ala Val

<210> 11

<211> 2720

<212> DNA

<213> Homo sapiens

<400> 11

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gagctctcgg ttctctcag tcggacttcc tgacgccgcc agtgggcggg 100

gccccttggg ccgtgccac cactgtagtc atgtaccac cgccgccgcc 150

gccgcctcat cgggacttca tctcggtgac gctgagctti ggcgagagct 200

atgacaacag caagagttgg cggcggcgct cgtgctggag gaaatggaag 250

caactgtcga gattgcagcg gaatatgatt ctcttctcc ttgcctttct 300

gcttttctgt ggactcctct tctacatcaa cttggctgac cattggaaag 350  
ctctggcttt caggctagag gaagagcaga agatgaggcc agaaattgct 400  
gggttaaaac cagcaaatcc acccgtctta ccagctcctc agaaggcggg 450  
caccgaccct gagaacttac ctgagatttc gtcacagaag acacaaagac 500  
acatccagcg gggaccacct cacctgcaga ttagaccccc aagccaagac 550  
ctgaaggatg ggaccagga ggaggccaca aaaaggcaag aagcccctgt 600  
ggatccccgc ccggaaggag atccgcagag gacagtcac agctggaggg 650  
gagcgggtgat cgagcctgag cagggcaccg agcicccttc aagaagagca 700  
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catggaaagg ataccgcaag ttgcatggg gccatgacga gctgaagcct 850  
gtgtccaggt ccttcagtga gtggttggc ctggtctca cactgatcga 900  
cgcgtggac accatgtgga tcttgggtct gaggaagaa ttgaggaag 950  
ccaggaagtg ggtgtcgaag aagttacact ttgaaaagga cgtggacgtc 1000  
aacctgttg agagcacgat ccgcacctg ggggggctcc tgagtgccta 1050  
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atcggtaat gcctgccttc agaacacat ccaagattcc ttactcgat 1150  
gtgaacatcg gtactggagt tgcccaccg ccacggtgga cctccgacag 1200  
cactgtggcc gaggtgacca gcattcagct ggagttccgg gagctctccc 1250  
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cacatccacg gcctgtctgg gaagaaggat gggctggtgc ccatgttc 1350  
caataccac agtggcctct taccacacct gggcgtattc acgtgggcg 1400  
ccagggccga cagctactat gactacctgc tgaagcagt gatccaggcg 1450

gggaagcagg agacacagct gctggaagac tacgtggaag ccatcgagg 1500  
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tgaggagct tgccacggc cgcttcagt ccaagatgga ccacctgtg 1600  
tgcttctgc caggacgct ggctctgggc gtctaccacg gcctgcccgc 1650  
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accggcagat ggagacgggg ctgagtcccg agatcgtgca ctcaacctt 1750  
tacccccagc cgggccgtcg ggacgtggag gtcaagccag cagacaggca 1800  
caacctgctg cgccagaga ccgtggagag cctgttctac ctgtaccgcg 1850  
tcacaggga ccgaaatac caggactggg gctgggagat tctgcagagc 1900  
ttcagccgat tcacacgggt ccctcgggt ggctattctt ccatcaaca 1950  
tgtccaggat cctcagaagc ccgagcctag ggacaagatg gagagcttct 2000  
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gggtgggcag aggcacctg ctgggtctgt ggcatcttc aaggccac 2200  
gtagcaccgg caaccgcaa gtggcccagg ctctgaactg gctctgggt 2250  
cctctctgc tctgtttaa tcaggacacc gtgaggacaa gtgaggccgt 2300  
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ggtgaccgag tggacagccc aggtgacgc tctgccggg ctcgtgaagc 2500  
ctcagatgc cccaatcaa ggtctggag gggctgccgt gactccagag 2550  
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ccctctggcc gccccgcagg gggcttggag ggctggacgg caagtcgctc 2650

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ttgatttgct ctaaccgcaa 2720

<210> 12

<211> 699

<212> PRT

<213> Homo sapiens

<220>

<221> TRANSMEM

<222> 21-40 and 84-105

<223> Transmembrane Domain (type II)

<400> 12

Met Ala Ala Cys Glu Gly Arg Arg Ser Gly Ala Leu Gly Ser Ser

1 5 10 15

Gln Ser Asp Phe Leu Thr Pro Pro Val Gly Gly Ala Pro Trp Ala

20 25 30

Val Ala Thr Thr Val Val Met Tyr Pro Pro Pro Pro Pro Pro

35 40 45

His Arg Asp Phe Ile Ser Val Thr Leu Ser Phe Gly Glu Ser Tyr

50 55 60

Asp Asn Ser Lys Ser Trp Arg Arg Arg Ser Cys Trp Arg Lys Trp

65 70 75

Lys Gln Leu Ser Arg Leu Gln Arg Asn Met Ile Leu Phe Leu Leu

80 85 90

Ala Phe Leu Leu Phe Cys Gly Leu Leu Phe Tyr Ile Asn Leu Ala

95 100 105

Asp His Trp Lys Ala Leu Ala Phe Arg Leu Glu Glu Glu Gln Lys

110 115 120

Met Arg Pro Glu Ile Ala Gly Leu Lys Pro Ala Asn Pro Pro Val

125 130 135

Leu Pro Ala Pro Gln Lys Ala Asp Thr Asp Pro Glu Asn Leu Pro

140	145	150
Glu Ile Ser Ser Gln Lys Thr Gln Arg His Ile Gln Arg Gly Pro		
155	160	165
Pro His Leu Gln Ile Arg Pro Pro Ser Gln Asp Leu Lys Asp Gly		
170	175	180
Thr Gln Glu Glu Ala Thr Lys Arg Gln Glu Ala Pro Val Asp Pro		
185	190	195
Arg Pro Glu Gly Asp Pro Gln Arg Thr Val Ile Ser Trp Arg Gly		
200	205	210
Ala Val Ile Glu Pro Glu Gln Gly Thr Glu Leu Pro Ser Arg Arg		
215	220	225
Ala Glu Val Pro Thr Lys Pro Pro Leu Pro Pro Ala Arg Thr Gln		
230	235	240
Gly Thr Pro Val His Leu Asn Tyr Arg Gln Lys Gly Val Ile Asp		
245	250	255
Val Phe Leu His Ala Trp Lys Gly Tyr Arg Lys Phe Ala Trp Gly		
260	265	270
His Asp Glu Leu Lys Pro Val Ser Arg Ser Phe Ser Glu Trp Phe		
275	280	285
Gly Leu Gly Leu Thr Leu Ile Asp Ala Leu Asp Thr Met Trp Ile		
290	295	300
Leu Gly Leu Arg Lys Glu Phe Glu Glu Ala Arg Lys Trp Val Ser		
305	310	315
Lys Lys Leu His Phe Glu Lys Asp Val Asp Val Asn Leu Phe Glu		
320	325	330
Ser Thr Ile Arg Ile Leu Gly Gly Leu Leu Ser Ala Tyr His Leu		
335	340	345
Ser Gly Asp Ser Leu Phe Leu Arg Lys Ala Glu Asp Phe Gly Asn		
350	355	360
Arg Leu Met Pro Ala Phe Arg Thr Pro Ser Lys Ile Pro Tyr Ser		



365	370	375
Asp Val Asn Ile Gly Thr Gly Val Ala His Pro Pro Arg Trp Thr		
380	385	390
Ser Asp Ser Thr Val Ala Glu Val Thr Ser Ile Gln Leu Glu Phe		
395	400	405
Arg Glu Leu Ser Arg Leu Thr Gly Asp Lys Lys Phe Gln Glu Ala		
410	415	420
Val Glu Lys Val Thr Gln His Ile His Gly Leu Ser Gly Lys Lys		
425	430	435
Asp Gly Leu Val Pro Met Phe Ile Asn Thr His Ser Gly Leu Phe		
440	445	450
Thr His Leu Gly Val Phe Thr Leu Gly Ala Arg Ala Asp Ser Tyr		
455	460	465
Tyr Glu Tyr Leu Leu Lys Gln Trp Ile Gln Gly Gly Lys Gln Glu		
470	475	480
Thr Gln Leu Leu Glu Asp Tyr Val Glu Ala Ile Glu Gly Val Arg		
485	490	495
Thr His Leu Leu Arg His Ser Glu Pro Ser Lys Leu Thr Phe Val		
500	505	510
Gly Glu Leu Ala His Gly Arg Phe Ser Ala Lys Met Asp His Leu		
515	520	525
Val Cys Phe Leu Pro Gly Thr Leu Ala Leu Gly Val Tyr His Gly		
530	535	540
Leu Pro Ala Ser His Met Glu Leu Ala Gln Glu Leu Met Glu Thr		
545	550	555
Cys Tyr Gln Met Asn Arg Gln Met Glu Thr Gly Leu Ser Pro Glu		
560	565	570
Ile Val His Phe Asn Leu Tyr Pro Gln Pro Gly Arg Arg Asp Val		
575	580	585
Glu Val Lys Pro Ala Asp Arg His Asn Leu Leu Arg Pro Glu Thr		

590	595	600
Val Glu Ser Leu Phe Tyr Leu Tyr Arg Val Thr Gly Asp Arg Lys		
605	610	615
Tyr Gln Asp Trp Gly Trp Glu Ile Leu Gln Ser Phe Ser Arg Phe		
620	625	630
Thr Arg Val Pro Ser Gly Gly Tyr Ser Ser Ile Asn Asn Val Gln		
635	640	645
Asp Pro Gln Lys Pro Glu Pro Arg Asp Lys Met Glu Ser Phe Phe		
650	655	660
Leu Gly Glu Thr Leu Lys Tyr Leu Phe Leu Leu Phe Ser Asp Asp		
665	670	675
Pro Asn Leu Leu Ser Leu Asp Ala Tyr Val Phe Asn Thr Glu Ala		
680	685	690
His Pro Leu Pro Ile Trp Thr Pro Ala		
695		

<210> 13

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 13

cgccagaagg gcgtgattga cgtc 24

<210> 14

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 14

ccatccttct tccagacag gccg 24

<210> 15  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 15  
gaagcctgtg tccaggtcct tcagtgagtg gtttggcctc ggtc 44

<210> 16  
<211> 1524  
<212> DNA  
<213> Homo sapiens

<400> 16  
ggcggcgcgt agggccggga ggccgggccc gccgggctgc gaggcctgc 50  
cccatgcgcc gccgcctctc cgcacgatgt tcccctcgcg gaggaaagcg 100  
gcgcagctgc cctgggagga cggcaggtcc ggggtgctct ccggcggcct 150  
ccctcggaag tgttccgtct tccacctgtt cgtggcctgc ctctcgctgg 200  
gctttctctc cctactctgg ctgcagctca gctgctctgg ggacgtggcc 250  
cgggcagctca ggggacaagg gcaggagacc tcgggccctc cccgtgcctg 300  
ccccccagag ccgccccctg agcactggga agaagacgca tcctggggcc 350  
cccaccgcct ggcagtgtg gtgcccttcc gcgaacgctt cgaggagctc 400  
ctggcttctg tgccccacat gcgccgcttc ctgagcagga agaagatccg 450  
gcaccacatc tacgtgtcga accaggtgga ccacttcagg ttcaaccggg 500  
cagcgctcat caacgtgggc ttctggaga gcagcaacag cacggactac 550  
attgccatgc acgacgttga cctgtccct ctaacgagg agctggacta 600  
tggtttctct gaggctgggc cttccacgt ggcctccccg gagtccacc 650  
ctctctacca ctacaagacc tatgtggcg gcatactgct gctctccaag 700

cagcactacc ggctgtgcaa tgggatgtcc aaccgcttct ggggctgggg 750  
ccgcgaggac gacgagttct accggcgcat taaggagct gggctccagc 800  
ttttccgcc ctcgggaatc acaactgggt acaagacatt tcgccacctg 850  
catgacctag cctggcggaa gagggaccag aagcgcatcg cagctcaaaa 900  
acaggagcag ttcaaggtgg acagggaggg aggcctgaac actgtgaagt 950  
accatgtggc ttccgcact gccctgtctg tggcgggggc cccctgact 1000  
gtcctcaaca tcattgttga ctgtgacaag accgccacac cctggtgcac 1050  
attcagctga gctggatgga cagtaggaa gcctgtacct acaggccata 1100  
ttgctcaggc tcaggacaag gcctcaggtc gtgggccag ctctgacagg 1150  
atgtggagtg gccaggacca agacagcaag ctacgaatt gcagccacc 1200  
ggccgccaa ggcaggcttg gctgggccag gacacgtggg gtgcctggga 1250  
cgctgcttc catgcacagt gatcagagag aggctgggg gtgtcctgtc 1300  
cgggacccc cctgccttc tctcaccct actctgacct ccttcacgtg 1350  
cccaggcctg tgggtagtgg ggagggtga acaggacaac ctctcatcac 1400  
cctactctga cctccttcac gtgccaggc ctgtgggtag tggggagggc 1450  
tgaacaggac aacctctcat ccccccaaa aaaaaaaaaa aaaaaaaaaa 1500  
aaaaaaaaa aaaaaaaaaa aaaa 1524

<210> 17

<211> 327

<212> PRT

<213> Homo sapiens

<220>

<221> sig\_peptide

<222> 1-42

<223> Signal peptide.

<220>

<221> misc\_feature  
<222> 19-25,65-71,247-253,285-291,303-310  
<223> N-myristoylation site.

<220>  
<221> misc\_feature  
<222> 27-31  
<223> cAMP- and cGMP-dependent protein kinase phosphorylation site.

<220>  
<221> TRANSMEM  
<222> 29-49  
<223> Transmembrane domain (type II).

<220>  
<221> misc\_feature  
<222> 154-158  
<223> N-glycosylation site.

<220>  
<221> misc\_feature  
<222> 226-233  
<223> Tyrosine kinase phosphorylation site.

<400> 17  
Met Phe Pro Ser Arg Arg Lys Ala Ala Gln Leu Pro Trp Glu Asp  
1 5 10 15  
  
Gly Arg Ser Gly Leu Leu Ser Gly Gly Leu Pro Arg Lys Cys Ser  
20 25 30  
  
Val Phe His Leu Phe Val Ala Cys Leu Ser Leu Gly Phe Phe Ser  
35 40 45  
  
Leu Leu Trp Leu Gln Leu Ser Cys Ser Gly Asp Val Ala Arg Ala  
50 55 60  
  
Val Arg Gly Gln Gly Gln Glu Thr Ser Gly Pro Pro Arg Ala Cys  
65 70 75  
  
Pro Pro Glu Pro Pro Pro Glu His Trp Glu Glu Asp Ala Ser Trp  
80 85 90  
  
Gly Pro His Arg Leu Ala Val Leu Val Pro Phe Arg Glu Arg Phe  
95 100 105

Glu Glu Leu Leu Val Phe Val Pro His Met Arg Arg Phe Leu Ser  
110 115 120

Arg Lys Lys Ile Arg His His Ile Tyr Val Leu Asn Gln Val Asp  
125 130 135

His Phe Arg Phe Asn Arg Ala Ala Leu Ile Asn Val Gly Phe Leu  
140 145 150

Glu Ser Ser Asn Ser Thr Asp Tyr Ile Ala Met His Asp Val Asp  
155 160 165

Leu Leu Pro Leu Asn Glu Glu Leu Asp Tyr Gly Phe Pro Glu Ala  
170 175 180

Gly Pro Phe His Val Ala Ser Pro Glu Leu His Pro Leu Tyr His  
185 190 195

Tyr Lys Thr Tyr Val Gly Gly Ile Leu Leu Leu Ser Lys Gln His  
200 205 210

Tyr Arg Leu Cys Asn Gly Met Ser Asn Arg Phe Trp Gly Trp Gly  
215 220 225

Arg Glu Asp Asp Glu Phe Tyr Arg Arg Ile Lys Gly Ala Gly Leu  
230 235 240

Gln Leu Phe Arg Pro Ser Gly Ile Thr Thr Gly Tyr Lys Thr Phe  
245 250 255

Arg His Leu His Asp Pro Ala Trp Arg Lys Arg Asp Gln Lys Arg  
260 265 270

Ile Ala Ala Gln Lys Gln Glu Gln Phe Lys Val Asp Arg Glu Gly  
275 280 285

Gly Leu Asn Thr Val Lys Tyr His Val Ala Ser Arg Thr Ala Leu  
290 295 300

Ser Val Gly Gly Ala Pro Cys Thr Val Leu Asn Ile Met Leu Asp  
305 310 315

Cys Asp Lys Thr Ala Thr Pro Trp Cys Thr Phe Ser  
320 325

<210> 18  
<211> 23  
<212> DNA  
<<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 18  
gcgaacgctt cgaggagtcc tgg 23

<210> 19  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 19  
gcagtgcggg aagccacatg gtac 24

<210> 20  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 20  
cttcctgagc aggaagaaga tccggcacca catctacgtg ctcaac 46

<210> 21  
<211> 494  
<212> DNA  
<213> Homo sapiens

<400> 21  
caatgtttgc ctatccacct cccccaagcc cctttaccta tgctgctgct 50

aacgctgctg ctgctgctgc tgctgcttaa aggctcatgc ttggagtggg 100

gactggtcgg tgcccagaaa gtctcttctg ccactgacgc ccccatcagg 150

gattgggcct tctttcccc ttctttctg tgtctcctgc ctcacggcc 200  
 tgccatgacc tgcagccaag cccagccccg tggggaaggg gagaaagtgg 250  
 gggatggcta agaaagctgg gagataggga acagaagagg gtagtgggtg 300  
 ggctaggggg gctgccttat ttaaagtgtg tgttatgat tcttatacta 350  
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 cctgtgttca atgtttgtaa agattgttct gtgtaaatat gtctttataa 450  
 taaacagtta aaagctgaaa aaaaaaaaaa aaaaaaaaaa aaaa 494

<210> 22  
 <211> 73  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> sig\_peptide  
 <222> 1-15  
 <223> Signal peptide.

<220>  
 <221> misc\_feature  
 <222> 3-18  
 <223> Growth factor and cytokines receptors family.

<400> 22  
 Met Leu Leu Leu Thr Leu Leu Leu Leu Leu Leu Lys Gly  
 1 5 10 15  
 Ser Cys Leu Glu Trp Gly Leu Val Gly Ala Gln Lys Val Ser Ser  
 20 25 30  
 Ala Thr Asp Ala Pro Ile Arg Asp Trp Ala Phe Phe Pro Pro Ser  
 35 40 45  
 Phe Leu Cys Leu Leu Pro His Arg Pro Ala Met Thr Cys Ser Gln  
 50 55 60  
 Ala Gln Pro Arg Gly Glu Gly Glu Lys Val Gly Asp Gly  
 65 70



<210> 23  
<211> 2883  
<212> DNA  
<213> Homo sapiens

<400> 23  
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cagcggacaa aggagcatgt ccgcgccggg gaaggccgt cctccggccg 100  
ccataaggct ccggtcgccg ctgggcccgc gccgcgtcc tgcccggccg 150  
ggctccgggg cggcccgcta ggccagtgcg ccgccgtcg cccgcaggc 200  
cccgccccgc agcatggagc caccgggacg ccggcggggc cgcgcgcagc 250  
cgccgctgtt gctgccgtc tcgtgttag cgctgctgc gctgtggga 300  
ggcggcgccg gcggcgccgc cgcggcgctg cccgccggt gcaagcacga 350  
tggcgggccc cgaggggctg gcagggcggc gggcgccgc gagggcaagg 400  
tggtgtgcag cagcctgga ctcgcgcagg tcctgcccc agatactctg 450  
cccaaccgca cggtcaccct gattctgagt aacaataaga tatccgagct 500  
gaagaatggc tcattttctg ggtaagtct cctgaaaga ttggacctcc 550  
gaaacaatct tattagtagt atagatccag gtgccttctg gggactgtca 600  
tctctaaaaa gattgtagt gacaaacaat cgaataggat gtctgaatgc 650  
agacatatct cgaggactca ccaatctggt tcggctaaac cttcgggga 700  
attgttttc tcattatct caaggaactt ttgattatct tgcgtcatta 750  
cggctcttgg aattccagac tgagtatctt ttgtgtgact gtaacatact 800  
gtggatgcat cgctgggtaa aggagaagaa catcacggt cgggatacca 850  
ggtgtgttta tcctaagtca ctgcaggccc aaccagtcac aggcgtgaag 900  
caggagctgt tgacatgca cctccgctt gaattgccgt cttctacat 950  
gactccatct catcgccaag ttgtgttga aggagacagc cttcctttcc 1000

agtgcacggc ttcatatatt gatcaggaca tgcaagtgtt gtggtatcag 1050  
gatgggagaa tagttgaaac ccatgaatcg caaggtattt ttgtgaaaa 1100  
gaacatgatt cacaactgct ccttgattgc aagtgccta accatttcta 1150  
atattcaggc tggatctact ggaaattggg gctgtcatgt ccagaccaa 1200  
cgtgggaata atacaggac tgtggatatt gtggtattag agagtctgc 1250  
acagtactgt cctccagaga ggggtgtaaa caacaaagg gacttcagat 1300  
ggcccagaac attggcaggc attactgcat atctgcagt tacgcggaac 1350  
acccatggca gtgggatata tcccggaaac ccacaggatg agagaaaagc 1400  
ttggcgaga tgtgatagag gtggctttg ggcagatgat gattattctc 1450  
gctgtcagta tgcaaatgat gtcactagag ttctttatat gtttaacag 1500  
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ttactctgt gaagcagcca acttttctga caaatggat gttatattg 1600  
tggcagaaat gattgaaaaa tttggaagat ttaccaagga ggaaaaatca 1650  
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<210> 24

<211> 616

<212> PRT

<213> Homo sapiens

<220>

<221> sig\_peptide

<222> 1-33

<223> Signal peptide.

<220>

<221> TRANSMEM

<222> 13-40

<223> Transmembrane domain (type II).

<400> 24

Met Glu Pro Pro Gly Arg Arg Gly Arg Ala Gln Pro Pro Leu  
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Leu Leu Pro Leu Ser Leu Leu Ala Leu Leu Ala Leu Leu Gly Gly  
20 25 30

Gly Gly Gly Gly Gly Ala Ala Ala Leu Pro Ala Gly Cys Lys His  
35 40 45

Asp Gly Arg Pro Arg Gly Ala Gly Arg Ala Ala Gly Ala Ala Glu  
50 55 60

Gly Lys Val Val Cys Ser Ser Leu Glu Leu Ala Gln Val Leu Pro  
65 70 75

Pro Asp Thr Leu Pro Asn Arg Thr Val Thr Leu Ile Leu Ser Asn  
80 85 90

Asn Lys Ile Ser Glu Leu Lys Asn Gly Ser Phe Ser Gly Leu Ser  
95 100 105

Leu Leu Glu Arg Leu Asp Leu Arg Asn Asn Leu Ile Ser Ser Ile  
110 115 120

Asp Pro Gly Ala Phe Trp Gly Leu Ser Ser Leu Lys Arg Leu Asp  
125 130 135

Leu Thr Asn Asn Arg Ile Gly Cys Leu Asn Ala Asp Ile Phe Arg  
140 145 150

Gly Leu Thr Asn Leu Val Arg Leu Asn Leu Ser Gly Asn Leu Phe  
155 160 165

Ser Ser Leu Ser Gln Gly Thr Phe Asp Tyr Leu Ala Ser Leu Arg  
170 175 180

Ser Leu Glu Phe Gln Thr Glu Tyr Leu Leu Cys Asp Cys Asn Ile  
185 190 195

Leu Trp Met His Arg Trp Val Lys Glu Lys Asn Ile Thr Val Arg  
200 205 210

Asp Thr Arg Cys Val Tyr Pro Lys Ser Leu Gln Ala Gln Pro Val  
215 220 225

Thr Gly Val Lys Gln Glu Leu Leu Thr Cys Asp Pro Pro Leu Glu  
230 235 240

Leu Pro Ser Phe Tyr Met Thr Pro Ser His Arg Gln Val Val Phe  
245 250 255

Glu Gly Asp Ser Leu Pro Phe Gln Cys Met Ala Ser Tyr Ile Asp  
260 265 270

Gln Asp Met Gln Val Leu Trp Tyr Gln Asp Gly Arg Ile Val Glu  
275 280 285

Thr Asp Glu Ser Gln Gly Ile Phe Val Glu Lys Asn Met Ile His  
290 295 300

Asn Cys Ser Leu Ile Ala Ser Ala Leu Thr Ile Ser Asn Ile Gln  
305 310 315

Ala Gly Ser Thr Gly Asn Trp Gly Cys His Val Gln Thr Lys Arg  
320 325 330

Gly Asn Asn Thr Arg Thr Val Asp Ile Val Val Leu Glu Ser Ser  
335 340 345

Ala Gln Tyr Cys Pro Pro Glu Arg Val Val Asn Asn Lys Gly Asp  
350 355 360

Phe Arg Trp Pro Arg Thr Leu Ala Gly Ile Thr Ala Tyr Leu Gln  
365 370 375

Cys Thr Arg Asn Thr His Gly Ser Gly Ile Tyr Pro Gly Asn Pro  
380 385 390

Gln Asp Glu Arg Lys Ala Trp Arg Arg Cys Asp Arg Gly Gly Phe  
395 400 405

Trp Ala Asp Asp Asp Tyr Ser Arg Cys Gln Tyr Ala Asn Asp Val  
410 415 420

Thr Arg Val Leu Tyr Met Phe Asn Gln Met Pro Leu Asn Leu Thr  
425 430 435

Asn Ala Val Ala Thr Ala Arg Gln Leu Leu Ala Tyr Thr Val Glu  
440 445 450

Ala Ala Asn Phe Ser Asp Lys Met Asp Val Ile Phe Val Ala Glu  
455 460 465

Met Ile Glu Lys Phe Gly Arg Phe Thr Lys Glu Glu Lys Ser Lys  
470 475 480

Glu Leu Gly Asp Val Met Val Asp Ile Ala Ser Asn Ile Met Leu  
485 490 495

Ala Asp Glu Arg Val Leu Trp Leu Ala Gln Arg Glu Ala Lys Ala  
500 505 510

Cys Ser Arg Ile Val Gln Cys Leu Gln Arg Ile Ala Thr Tyr Arg  
515 520 525

Leu Ala Gly Gly Ala His Val Tyr Ser Thr Tyr Ser Pro Asn Ile  
530 535 540

Ala Leu Glu Ala Tyr Val Ile Lys Ser Thr Gly Phe Thr Gly Met  
545 550 555

Thr Cys Thr Val Phe Gln Lys Val Ala Ala Ser Asp Arg Thr Gly  
560 565 570

Leu Ser Asp Tyr Gly Arg Arg Asp Pro Glu Gly Asn Leu Asp Lys  
575 580 585

Gln Leu Ser Phe Lys Cys Asn Val Ser Asn Thr Phe Ser Ser Leu  
590 595 600

Ala Leu Lys Val Cys Tyr Ile Leu Gln Ser Phe Lys Thr Ile Tyr  
605 610 615

Ser

<210> 25

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 25

gaggactcac caatctggtt cggc 24

<210> 26

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 26

aactggaaag gaaggctgtc tccc 24

<210> 27

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 27

gtaaaggaga agaacatcac ggtacgggat accaggtgtg ttatcctaa 50

<210> 28

<211> 683

<212> DNA

<213> Homo sapiens

<400> 28

gcgtggggat gtctaggagc tcgaagggtg tgctgggcct ctcggtgctg 50

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gcagaggctt cgtgacggag ttatcagaga cattgagagg caaattcgga 150

aaaaagaaaa cattcgtctt ttgggagaac agattatctt gactgagcaa 200

cttgaagcag aaagagagaa gatgttattg gcaaaaggat cicaaaaatc 250

atgacttgaa tgtgaaatat ctgttgaca gacaacacga gtttgtgtgt 300

gtgtgtgat ggagagtagc ttagtagtat cttcatcttt tttttggtc 350

actgtccttt taaacttgat caaataaagg acagtgggtc atataagtta 400

ctgctttcag ggtcccttat atctgaataa aggagtgtgg gcagacactt 450  
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 gtggagggag agacgctcct gatcgtcgaa tcc 683

<210> 29

<211> 81

<212> PRT

<213> Homo sapiens

<220>

<221> sig\_peptide

<222> 1-21

<223> Signal peptide.

<400> 29

Met Ser Arg Ser Ser Lys Val Val Leu Gly Leu Ser Val Leu Leu  
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Thr Ala Ala Thr Val Ala Gly Val His Val Lys Gln Gln Trp Asp  
 20 25 30

Gln Gln Arg Leu Arg Asp Gly Val Ile Arg Asp Ile Glu Arg Gln  
 35 40 45

Ile Arg Lys Lys Glu Asn Ile Arg Leu Leu Gly Glu Gln Ile Ile  
 50 55 60

Leu Thr Glu Gln Leu Glu Ala Glu Arg Glu Lys Met Leu Leu Ala  
 65 70 75

Lys Gly Ser Gln Lys Ser  
 80

<210> 30

<211> 2128

<212> DNA

<213> Homo sapiens



<400> 30

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tccgtggatt cctctgctaa gaccgctgcc atgccagtga cggtaacccg 150  
caccaccatc acaaccacca cgacgtcatc ttcgggcctg gggccccca 200  
tgatcgtggg gtcacctcgg gccctgacac agcccctggg tctccttcgc 250  
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<210> 31

<211> 322

<212> PRT

<213> Homo sapiens

<400> 31

Met Pro Val Thr Val Thr Arg Thr Thr Ile Thr Thr Thr Thr Thr  
1 5 10 15

Ser Ser Ser Gly Leu Gly Ser Pro Met Ile Val Gly Ser Pro Arg  
20 25 30

Ala Leu Thr Gln Pro Leu Gly Leu Leu Arg Leu Leu Gln Leu Val  
35 40 45

Ser Thr Cys Val Ala Phe Ser Leu Val Ala Ser Val Gly Ala Trp  
50 55 60

Thr Gly Ser Met Gly Asn Trp Ser Met Phe Thr Trp Cys Phe Cys  
65 70 75

Phe Ser Val Thr Leu Ile Ile Leu Ile Val Glu Leu Cys Gly Leu  
80 85 90

Gln Ala Arg Phe Pro Leu Ser Trp Arg Asn Phe Pro Ile Thr Phe  
95 100 105

Ala Cys Tyr Ala Ala Leu Phe Cys Leu Ser Ala Ser Ile Ile Tyr  
110 115 120

Pro Thr Thr Tyr Val Gln Phe Leu Ser His Gly Arg Ser Arg Asp  
125 130 135

His Ala Ile Ala Ala Thr Phe Phe Ser Cys Ile Ala Cys Val Ala  
140 145 150

Tyr Ala Thr Glu Val Ala Trp Thr Arg Ala Arg Pro Gly Glu Ile  
155 160 165

Thr Gly Tyr Met Ala Thr Val Pro Gly Leu Leu Lys Val Leu Glu  
170 175 180

Thr Phe Val Ala Cys Ile Ile Phe Ala Phe Ile Ser Asp Pro Asn  
185 190 195

Leu Tyr Gln His Gln Pro Ala Leu Glu Trp Cys Val Ala Val Tyr  
200 205 210

Ala Ile Cys Phe Ile Leu Ala Ala Ile Ala Ile Leu Leu Asn Leu  
 215 220 225  
 Gly Glu Cys Thr Asn Val Leu Pro Ile Pro Phe Pro Ser Phe Leu  
 230 235 240  
 Ser Gly Leu Ala Leu Leu Ser Val Leu Leu Tyr Ala Thr Ala Leu  
 245 250 255  
 Val Leu Trp Pro Leu Tyr Gln Phe Asp Glu Lys Tyr Gly Gly Gln  
 260 265 270  
 Pro Arg Arg Ser Arg Asp Val Ser Cys Ser Arg Ser His Ala Tyr  
 275 280 285  
 Tyr Val Cys Ala Trp Asp Arg Arg Leu Ala Val Ala Ile Leu Thr  
 290 295 300  
 Ala Ile Asn Leu Leu Ala Tyr Val Ala Asp Leu Val His Ser Ala  
 305 310 315  
 His Leu Val Phe Val Lys Val  
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<210> 32

<211> 3680

<212> DNA

<213> Homo sapiens

<400> 32

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tcacctcggc ctcccaaagt gctgggatta caggcatgag ccactgacgc 150

ctggccagcc tatgcatttt taagaaatta ttctgtatta ggtgctgtgc 200

taaacattgg gcactacagt gaccaaaca gactgaattc cccaagagcc 250

aaagaccagt gagggagacc aacaagaaac aggaaatgca aaagagacca 300

ttattactca ctatgactaa gggtcacaaa tgggggtacgt tgatggagag 350

tgattttgta agagactaca gagggaggac agactaccaa gagggggggcc 400

aggaaagctc ctctgacgag gtggtatttc agcccaaact ggaagaatga 450  
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cactcactac actttggcct gagaaaatag catgggattg gaggaggctg 550  
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<210> 33

<211> 335

<212> PRT

<213> Homo sapiens

<400> 33

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Phe Gly Thr Val Ser Cys Glu Tyr Met Leu Gly Ser Pro Leu Ser  
20 25 30

Ser Leu Ala Gln Val Asn Leu Ser Pro Phe Ser His Pro Lys Val  
35 40 45

His Met Asp Pro Asn Tyr Cys His Pro Ser Thr Ser Leu His Leu  
50 55 60

Cys Ser Leu Ala Trp Ser Phe Thr Arg Leu Leu His Pro Pro Leu  
65 70 75

Ser Pro Gly Ile Ser Gln Val Val Lys Asp His Val Thr Lys Pro  
80 85 90

Thr Ala Met Ala Gln Gly Arg Val Ala His Leu Ile Glu Trp Lys  
95 100 105

Gly Trp Ser Lys Pro Ser Asp Ser Pro Ala Ala Leu Glu Ser Ala  
110 115 120

Phe Ser Ser Tyr Ser Asp Leu Ser Glu Gly Glu Gln Glu Ala Arg  
125 130 135

Phe Ala Ala Gly Val Ala Glu Gln Phe Ala Ile Ala Glu Ala Lys  
140 145 150

Leu Arg Ala Trp Ser Ser Val Asp Gly Glu Asp Ser Thr Asp Asp  
155 160 165

Ser Tyr Asp Glu Asp Phe Ala Gly Gly Met Asp Thr Asp Met Ala  
170 175 180

Gly Gln Leu Pro Leu Gly Pro His Leu Gln Asp Leu Phe Thr Gly  
185 190 195

His Arg Phe Ser Arg Pro Val Arg Gln Gly Ser Val Glu Pro Glu  
200 205 210

Ser Asp Cys Ser Gln Thr Val Ser Pro Asp Thr Leu Cys Ser Ser  
215 220 225



Leu Cys Ser Leu Glu Asp Gly Leu Leu Gly Ser Pro Ala Arg Leu  
230 235 240

Ala Ser Gln Leu Leu Gly Asp Glu Leu Leu Leu Ala Lys Leu Pro  
245 250 255

Pro Ser Arg Glu Ser Ala Phe Arg Ser Leu Gly Pro Leu Glu Ala  
260 265 270

Gln Asp Ser Leu Tyr Asn Ser Pro Leu Thr Glu Ser Cys Leu Ser  
275 280 285

Pro Ala Glu Glu Glu Pro Ala Pro Cys Lys Asp Cys Gln Pro Leu  
290 295 300

Cys Pro Pro Leu Thr Gly Ser Trp Glu Arg Gln Arg Gln Ala Ser  
305 310 315

Asp Leu Ala Ser Ser Gly Val Val Ser Leu Asp Glu Asp Glu Ala  
320 325 330

Glu Pro Glu Glu Gln  
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<210> 34

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 34

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<210> 35

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 35

ctggatgcta atgtgtccag taaatgatcc ccttatcccg tcgcgatgct 50

<210> 36

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 36

ttccactcaa tgagtgagc cactc 25

<210> 37

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 37

ggcgagccct aactatccag gag 23

<210> 38

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 38

ggagatcgct gcgctggcca ggtcctccct gcatggat 39

<210> 39

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 39

ctgctgcaaa gcgagcctct tg 22

<210> 40

<211> 2084

<212> DNA

<213> Homo sapiens

<400> 40

ggttcctggg cgctctgtta cacaagcaag atacagccag cccaccta 50

ttttgttcc ctggcaccct cctgctcagt gcgacattgt cacacttaac 100

ccatctgttt tctctaagc acgacagatt ccttcagac aggacaactg 150

tgatatttca gttcctgatt gtaaatacct cctaagcctg aagcttctgt 200

tactagccat tgtgagcttc agtttcttca tctgcaaat gggcataata 250

caatctattc ttgccacatc aagggattgt tattccttta aaaaaaac 300

aataccaaag aagcctacaa tgttggcctt agccaaaatt ctgttgattt 350

caacgttggt ttattcactt ctatcgggga gccatggaaa agaaaatcaa 400

gacataaaca caacacagaa cattgcagaa gtttttaaaa caatggaaaa 450

taaacctatt tctttggaaa gtgaagcaaa cttaactca gataaagaaa 500

atataaccac ctcaaactc aaggcgagtc attcccctcc tttgaatcta 550

cccaacaaca gccacggaat aacagatttc tccagtaact catcagcaga 600

gcattctttg ggcagtctaa aaccacatc taccatttc acaagccctc 650

ccttgatcca tagctttgtt tctaaagtgc ctggaatgc acctatagca 700

gatgaagatc tttgcccat ctcagcacat cccaatgcta cacctgctct 750

gtcttcagaa aatttcactt ggtcttgggt caatgacacc gtgaaaactc 800

ctgataacag ttccattaca gtagcatcc tctcttcaga accaacttct 850

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cagtgatagc ttactgggt ttaccctta tcaagaaaa acaactctac 950

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acctgtattc tagtacgtta taattttcta gatcagcaca cacatgatca 1900  
gcccactgag ttatgaagct gacaatgact gcattcaacg gggccatggc 1950  
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<211> 334

<212> PRT

<213> Homo sapiens

<400> 41

Met Leu Ala Leu Ala Lys Ile Leu Leu Ile Ser Thr Leu Phe Tyr

1 5 10 15

Ser Leu Leu Ser Gly Ser His Gly Lys Glu Asn Gln Asp Ile Asn

20 25 30

Thr Thr Gln Asn Ile Ala Glu Val Phe Lys Thr Met Glu Asn Lys

35 40 45

Pro Ile Ser Leu Glu Ser Glu Ala Asn Leu Asn Ser Asp Lys Glu

50 55 60

Asn Ile Thr Thr Ser Asn Leu Lys Ala Ser His Ser Pro Pro Leu

65 70 75

Asn Leu Pro Asn Asn Ser His Gly Ile Thr Asp Phe Ser Ser Asn

80 85 90

Ser Ser Ala Glu His Ser Leu Gly Ser Leu Lys Pro Thr Ser Thr

95 100 105

Ile Ser Thr Ser Pro Pro Leu Ile His Ser Phe Val Ser Lys Val

110 115 120

Pro Trp Asn Ala Pro Ile Ala Asp Glu Asp Leu Leu Pro Ile Ser

125 130 135

Ala His Pro Asn Ala Thr Pro Ala Leu Ser Ser Glu Asn Phe Thr

140 145 150

Trp Ser Leu Val Asn Asp Thr Val Lys Thr Pro Asp Asn Ser Ser

155 160 165

Ile Thr Val Ser Ile Leu Ser Ser Glu Pro Thr Ser Pro Ser Val

170 175 180

Thr Pro Leu Ile Val Glu Pro Ser Gly Trp Leu Thr Thr Asn Ser

185 190 195

Asp Ser Phe Thr Gly Phe Thr Pro Tyr Gln Glu Lys Thr Thr Leu

200	205	210
Gln Pro Thr Leu Lys Phe Thr Asn Asn Ser Lys Leu Phe Pro Asn		
215	220	225
Thr Ser Asp Pro Gln Lys Glu Asn Arg Asn Thr Gly Ile Val Phe		
230	235	240
Gly Ala Ile Leu Gly Ala Ile Leu Gly Val Ser Leu Leu Thr Leu		
245	250	255
Val Gly Tyr Leu Leu Cys Gly Lys Arg Lys Thr Asp Ser Phe Ser		
260	265	270
His Arg Arg Leu Tyr Asp Asp Arg Asn Glu Pro Val Leu Arg Leu		
275	280	285
Asp Asn Ala Pro Glu Pro Tyr Asp Val Ser Phe Gly Asn Ser Ser		
290	295	300
Tyr Tyr Asn Pro Thr Leu Asn Asp Ser Ala Met Pro Glu Ser Glu		
305	310	315
Glu Asn Ala Arg Asp Gly Ile Pro Met Asp Asp Ile Pro Pro Leu		
320	325	330
Arg Thr Ser Val		

<210> 42

<211> 1594

<212> DNA

<213> Homo sapiens

<400> 42

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cccctaccgc cgtgcaaaag gaggaggcgc ggcaagacgt ggaggccctc 150

ctgagccgca cggtcagaac tcagatactg accggcaagg agctccgagt 200

tgccaccag gaaaaagagg gctcctctgg gagatgtatg cttactctct 250

taggcctttc attcatcttg gcaggactta ttgttggtgg agcctgcatt 300  
tacaagtact tcatgcccac gagcaccatt taccgtggag agatgtgctt 350  
ttttgattct gaggatcctg caaattccct tcgtggagga gaggcctaact 400  
tcttgctgt gactgaggag gctgacattc gtgaggatga caacattgca 450  
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tattcatgac ttgaaaagg gaatgactgc ttacctggac ttgttgctgg 550  
ggaactgcta tctgatgccc ctcaatactt ctattgttat gctccaaaa 600  
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aacttatgtg gttcgagaag acctagtgc tgtggaggaa attcgtgatg 700  
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tgataaatgc tggaagatta gacactccc caacgaattt attgtgaga 850  
ccaagatctg tcaagagtaa gaggcaacag atagagtgc ctggtaata 900  
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tcaagatatt tactcatgca ttactctat tgcctatgct ttaaaaaaag 1000  
gaaaaaaaaaaa aaactacta accactgcaa gctctgtca aattttagtt 1050  
taattggcat tgcctgtttt tgaaactga aattacatga gtttcatttt 1100  
ttctttgcat ttatagggtt tagatttctg aaagcagcat gaatatatca 1150  
cctaacatcc tgacaataaa ttccatccgt tgtttttttt gttgtttgt 1200  
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ttaacctgac ttatatgtga acaattttca tgagacagtc attttaact 1450

aatgcagtga ttctttctca ctactatctg tattgtggaa tgcacaaaat 1500

tgtgtagggtg ctgaatgctg taaggagttt aggttgatg aattctacaa 1550

ccctataata aattttactc tatacaaaaa aaaaaaaaaa aaaa 1594

<210> 43

<211> 263

<212> PRT

<213> Homo sapiens

<400> 43

Met Val Lys Ile Ala Phe Asn Thr Pro Thr Ala Val Gln Lys Glu  
1 5 10 15

Glu Ala Arg Gln Asp Val Glu Ala Leu Leu Ser Arg Thr Val Arg  
20 25 30

Thr Gln Ile Leu Thr Gly Lys Glu Leu Arg Val Ala Thr Gln Glu  
35 40 45

Lys Glu Gly Ser Ser Gly Arg Cys Met Leu Thr Leu Leu Gly Leu  
50 55 60

Ser Phe Ile Leu Ala Gly Leu Ile Val Gly Gly Ala Cys Ile Tyr  
65 70 75

Lys Tyr Phe Met Pro Lys Ser Thr Ile Tyr Arg Gly Glu Met Cys  
80 85 90

Phe Phe Asp Ser Glu Asp Pro Ala Asn Ser Leu Arg Gly Gly Glu  
95 100 105

Pro Asn Phe Leu Pro Val Thr Glu Glu Ala Asp Ile Arg Glu Asp  
110 115 120

Asp Asn Ile Ala Ile Ile Asp Val Pro Val Pro Ser Phe Ser Asp  
125 130 135

Ser Asp Pro Ala Ala Ile Ile His Asp Phe Glu Lys Gly Met Thr  
140 145 150

Ala Tyr Leu Asp Leu Leu Leu Gly Asn Cys Tyr Leu Met Pro Leu



155	160	165
Asn Thr Ser Ile Val Met Pro Pro Lys Asn Leu Val Glu Leu Phe		
170	175	180
Gly Lys Leu Ala Ser Gly Arg Tyr Leu Pro Gln Thr Tyr Val Val		
185	190	195
Arg Glu Asp Leu Val Ala Val Glu Glu Ile Arg Asp Val Ser Asn		
200	205	210
Leu Gly Ile Phe Ile Tyr Gln Leu Cys Asn Asn Arg Lys Ser Phe		
215	220	225
Arg Leu Arg Arg Arg Asp Leu Leu Leu Gly Phe Asn Lys Arg Ala		
230	235	240
Ile Asp Lys Cys Trp Lys Ile Arg His Phe Pro Asn Glu Phe Ile		
245	250	255
Val Glu Thr Lys Ile Cys Gln Glu		
260		

<210> 44  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 44  
 gaaagacacg acacagcagc ttgc 24

<210> 45  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 45  
 gggaactgct atctgatgcc 20

<210> 46  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 46  
caggatctcc tcttcagtc tgcagc 26

<210> 47  
<211> 28  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 47  
cttctcgaac cacataagtt tgaggcag 28

<210> 48  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 48  
cacgattccc tccacagcaa ctggg 25

<210> 49  
<211> 1969  
<212> DNA  
<213> Homo sapiens

<400> 49  
ggaggaggga gggcgggcag gcgccagccc agagcagccc cgggcaccag 50  
  
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cgggagcacc cagtcctgta cgccaaggaa ctggtcctgg gggcaccatg 150

gtttcggcgg cagccccag cctcctcatc ctctgttgc tgctgctggg 200  
gtctgtcct gctaccgacg cccgctctgt gccctgaag gccacgttc 250  
tggaggatgt ggcgggtagt ggggaggcgg agggctcgtc ggcctcctcc 300  
ccgagcctcc cgccaccctg gacccggcc ctcagccca catgatggg 350  
gccccagccc acaaccctgg ggggcccac accccacc aactcctgg 400  
atgggatagt ggacttctc cgccagtacg tgatgctgat tgctgtggtg 450  
ggctccctgg ctttctgt gatgttcatc gtctgtgcc cggtcatcac 500  
ccggcagaag cagaaggcct cggcctatta cccatgctc tccccaga 550  
agaagtacgt ggaccagagt gaccgggccc ggggccccg ggccttcagt 600  
gaggtccccg acagagcccc cgacagcagg cccgaggaag ccctggattc 650  
ctcccgag ctccaggccg acatcttggc cgccaccag aacctcaagt 700  
ccccaccag ggctgcactg ggcggtgggg acggagccag gatggtggag 750  
ggcaggggcg cagaggaaga ggagaagggc agccaggagg gggaccagga 800  
agtccaggga catgggttc cagtggagac accagaggcg caggaggagc 850  
cgtgctcagg ggtccttgag ggggctgtgg tggccggtga gggccaaggg 900  
gagctggaag ggtctctct gtagccag gaagcccagg gaccagtggg 950  
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 aatactgctc ttaattttcc tgaagggtgc cccctgttgc tagttggtcc 1450  
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 gtcagtctc gacagggagc ctgggctccg tctgtctta gggaggctct 1800  
 ggcaggaggt cctctcccc atccctccat ctggggtcc cccaacctct 1850  
 gcacagctct ccaggtgctg agatataatg caccagcaca ataaaccttt 1900  
 attccggcct gaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1950  
 aaaaaaaaaa aaaaaaaga 1969

<210> 50

<211> 283

<212> PRT

<213> Homo sapiens

<400> 50

Met Val Ser Ala Ala Ala Pro Ser Leu Leu Ile Leu Leu Leu

1 5 10 15

Leu Leu Gly Ser Val Pro Ala Thr Asp Ala Arg Ser Val Pro Leu

20 25 30

Lys Ala Thr Phe Leu Glu Asp Val Ala Gly Ser Gly Glu Ala Glu

35 40 45

Gly Ser Ser Ala Ser Ser Pro Ser Leu Pro Pro Pro Trp Thr Pro

50 55 60

Ala Leu Ser Pro Thr Ser Met Gly Pro Gln Pro Thr Thr Leu Gly  
65 70 75

Gly Pro Ser Pro Pro Thr Asn Phe Leu Asp Gly Ile Val Asp Phe  
80 85 90

Phe Arg Gln Tyr Val Met Leu Ile Ala Val Val Gly Ser Leu Ala  
95 100 105

Phe Leu Leu Met Phe Ile Val Cys Ala Ala Val Ile Thr Arg Gln  
110 115 120

Lys Gln Lys Ala Ser Ala Tyr Tyr Pro Ser Ser Phe Pro Lys Lys  
125 130 135

Lys Tyr Val Asp Gln Ser Asp Arg Ala Gly Gly Pro Arg Ala Phe  
140 145 150

Ser Glu Val Pro Asp Arg Ala Pro Asp Ser Arg Pro Glu Glu Ala  
155 160 165

Leu Asp Ser Ser Arg Gln Leu Gln Ala Asp Ile Leu Ala Ala Thr  
170 175 180

Gln Asn Leu Lys Ser Pro Thr Arg Ala Ala Leu Gly Gly Gly Asp  
185 190 195

Gly Ala Arg Met Val Glu Gly Arg Gly Ala Glu Glu Glu Glu Lys  
200 205 210

Gly Ser Gln Glu Gly Asp Gln Glu Val Gln Gly His Gly Val Pro  
215 220 225

Val Glu Thr Pro Glu Ala Gln Glu Glu Pro Cys Ser Gly Val Leu  
230 235 240

Glu Gly Ala Val Val Ala Gly Glu Gly Gln Gly Glu Leu Glu Gly  
245 250 255

Ser Leu Leu Leu Ala Gln Glu Ala Gln Gly Pro Val Gly Pro Pro  
260 265 270

Glu Ser Pro Cys Ala Cys Ser Ser Val His Pro Ser Val  
275 280

<210> 51

<211> 1734

<212> DNA

<213> Homo sapiens

<400> 51

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gcacagagac gcagagcaag ggcggcaagg aggagaccct ggtgggagga 150  
agacactctg gagagagagg gggctgggca gagatgaagt tccaggggcc 200  
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ggacatggcc tgggagacgc cctgagcgaa ggggtgggaa aggccattgg 350  
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aagggaccag agaagcagti ggcactggag tcaggcaggt tccaggcttt 450  
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acggagcaga tgctgtccgc ggctcctggc aggggggtgcc tggccacagt 600  
ggtgcttggg aaacttctgg aggccatggc atctttggct ctcaaggtgg 650  
ccttggaggc cagggccagg gcaatcctgg aggtctgggg actccgtggg 700  
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caacactcag ggagctgtgg ccagcctgg ctatggttca gtgagagcca 850  
gcaaccagaa tgaagggtgc acgaatcccc caccatctgg ctgaggtgga 900  
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 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 1734

<210> 52

<211> 440

<212> PRT

<213> Homo sapiens

<400> 52

Met	Lys	Phe	Gln	Gly	Pro	Leu	Ala	Cys	Leu	Leu	Leu	Ala	Leu	Cys
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Leu	Gly	Ser	Gly	Glu	Ala	Gly	Pro	Leu	Gln	Ser	Gly	Glu	Glu	Ser
	20				25			30						

Thr	Gly	Thr	Asn	Ile	Gly	Glu	Ala	Leu	Gly	His	Gly	Leu	Gly	Asp
	35				40			45						

Ala Leu Ser Glu Gly Val Gly Lys Ala Ile Gly Lys Glu Ala Gly  
50 55 60

Gly Ala Ala Gly Ser Lys Val Ser Glu Ala Leu Gly Gln Gly Thr  
65 70 75

Arg Glu Ala Val Gly Thr Gly Val Arg Gln Val Pro Gly Phe Gly  
80 85 90

Ala Ala Asp Ala Leu Gly Asn Arg Val Gly Glu Ala Ala His Ala  
95 100 105

Leu Gly Asn Thr Gly His Glu Ile Gly Arg Gln Ala Glu Asp Val  
110 115 120

Ile Arg His Gly Ala Asp Ala Val Arg Gly Ser Trp Gln Gly Val  
125 130 135

Pro Gly His Ser Gly Ala Trp Glu Thr Ser Gly Gly His Gly Ile  
140 145 150

Phe Gly Ser Gln Gly Gly Leu Gly Gly Gln Gly Gln Gly Asn Pro  
155 160 165

Gly Gly Leu Gly Thr Pro Trp Val His Gly Tyr Pro Gly Asn Ser  
170 175 180

Ala Gly Ser Phe Gly Met Asn Pro Gln Gly Ala Pro Trp Gly Gln  
185 190 195

Gly Gly Asn Gly Gly Pro Pro Asn Phe Gly Thr Asn Thr Gln Gly  
200 205 210

Ala Val Ala Gln Pro Gly Tyr Gly Ser Val Arg Ala Ser Asn Gln  
215 220 225

Asn Glu Gly Cys Thr Asn Pro Pro Pro Ser Gly Ser Gly Gly Gly  
230 235 240

Ser Ser Asn Ser Gly Gly Gly Ser Gly Ser Gln Ser Gly Ser Ser  
245 250 255

Gly Ser Gly Ser Asn Gly Asp Asn Asn Asn Gly Ser Ser Ser Gly  
260 265 270



Gly Ser Ser Ser Gly Ser Ser Ser Gly Ser Ser Ser Gly Gly Ser  
275 280 285

Ser Gly Gly Ser Ser Gly Gly Ser Ser Gly Asn Ser Gly Gly Ser  
290 295 300

Arg Gly Asp Ser Gly Ser Glu Ser Ser Trp Gly Ser Ser Thr Gly  
305 310 315

Ser Ser Ser Gly Asn His Gly Gly Ser Gly Gly Gly Asn Gly His  
320 325 330

Lys Pro Gly Cys Glu Lys Pro Gly Asn Glu Ala Arg Gly Ser Gly  
335 340 345

Glu Ser Gly Ile Gln Gly Phe Arg Gly Gln Gly Val Ser Ser Asn  
350 355 360

Met Arg Glu Ile Ser Lys Glu Gly Asn Arg Leu Leu Gly Gly Ser  
365 370 375

Gly Asp Asn Tyr Arg Gly Gln Gly Ser Ser Trp Gly Ser Gly Gly  
380 385 390

Gly Asp Ala Val Gly Gly Val Asn Thr Val Asn Ser Glu Thr Ser  
395 400 405

Pro Gly Met Phe Asn Phe Asp Thr Phe Trp Lys Asn Phe Lys Ser  
410 415 420

Lys Leu Gly Phe Ile Asn Trp Asp Ala Ile Asn Lys Asp Gln Arg  
425 430 435

Ser Ser Arg Ile Pro  
440

<210> 53

<211> 3580

<212> DNA

<213> Homo sapiens

<400> 53

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ctctcctgct gcgcctgcac cggagcttgg tgtgtcgca ggagagttag 200  
gggaagatgt gtttctgaa caagctgctg ctacttgctg tcctgggctg 250  
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gtccctcata tgccittgag gtggacacag tagccccaga gcatggcttg 350  
gacaatgctg ctgtggtgga ccagcagctg ctctacacct gctgcccta 400  
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gacggagtgg gggcttcag aggaaaatca cccccaccac taccaccagc 500  
ctgggagccc agccttccca gaccagccag gggctgcagg cacagctgcg 550  
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<210> 54

<211> 280

<212> PRT

<213> Homo sapiens

<400> 54

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Glu Gly Pro Ser Tyr Ala Phe Glu Val Asp Thr Val Ala Pro Glu

35 40 45

His Gly Leu Asp Asn Ala Pro Val Val Asp Gln Gln Leu Leu Tyr

50 55 60

Thr Cys Cys Pro Tyr Ile Gly Glu Leu Arg Lys Leu Leu Ala Ser

65 70 75

Trp Val Ser Gly Ser Ser Gly Arg Ser Gly Gly Phe Met Arg Lys

80 85 90

Ile Thr Pro Thr Thr Thr Thr Ser Leu Gly Ala Gln Pro Ser Gln

95 100 105

Thr Ser Gln Gly Leu Gln Ala Gln Leu Ala Gln Ala Phe Phe His

110 115 120

Asn Gln Pro Pro Ser Leu Arg Arg Thr Val Glu Phe Val Ala Glu

125 130 135

Arg Ile Gly Ser Asn Cys Val Lys His Ile Lys Ala Thr Leu Val

140 145 150

Ala Asp Leu Val Arg Gln Ala Glu Ser Leu Leu Gln Glu Gln Leu

155 160 165

Val Thr Gln Gly Glu Glu Gly Gly Asp Pro Ala Gln Leu Leu Glu

170 175 180

Ile Leu Cys Ser Gln Leu Cys Pro His Gly Ala Gln Ala Leu Ala

185	190	195
Leu Gly Arg Glu Phe Cys Gln Arg Lys Ser Pro Gly Ala Val Arg		
200	205	210
Ala Leu Leu Pro Glu Glu Thr Pro Ala Ala Val Leu Ser Ser Ala		
215	220	225
Glu Asn Ile Ala Val Gly Leu Ala Thr Glu Lys Ala Cys Ala Trp		
230	235	240
Leu Ser Ala Asn Ile Thr Ala Leu Ile Arg Arg Glu Val Lys Ala		
245	250	255
Ala Val Ser Arg Thr Leu Arg Ala Gln Gly Pro Glu Pro Ala Ala		
260	265	270
Arg Gly Glu Arg Arg Gly Cys Ser Arg Ala		
275	280	

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 <211> 2401  
 <212> DNA  
 <213> Homo sapiens

<400> 55  
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a 2401

<210> 56

<211> 299

<212> PRT

<213> Homo sapiens

<400> 56

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Phe Ala Leu Ile Thr Ile Leu Ile Leu Tyr Ser Ser Asn Ser Ala

20 25 30

Asn Glu Val Phe His Tyr Gly Ser Leu Arg Gly Arg Ser Arg Arg



35	40	45
Pro Val Asn Leu Lys Lys Trp Ser Ile Thr Asp Gly Tyr Val Pro		
50	55	60
Ile Leu Gly Asn Lys Thr Leu Pro Ser Arg Cys His Gln Cys Val		
65	70	75
Ile Val Ser Ser Ser Ser His Leu Leu Gly Thr Lys Leu Gly Pro		
80	85	90
Glu Ile Glu Arg Ala Glu Cys Thr Ile Arg Met Asn Asp Ala Pro		
95	100	105
Thr Thr Gly Tyr Ser Ala Asp Val Gly Asn Lys Thr Thr Tyr Arg		
110	115	120
Val Val Ala His Ser Ser Val Phe Arg Val Leu Arg Arg Pro Gln		
125	130	135
Glu Phe Val Asn Arg Thr Pro Glu Thr Val Phe Ile Phe Trp Gly		
140	145	150
Pro Pro Ser Lys Met Gln Lys Pro Gln Gly Ser Leu Val Arg Val		
155	160	165
Ile Gln Arg Ala Gly Leu Val Phe Pro Asn Met Glu Ala Tyr Ala		
170	175	180
Val Ser Pro Gly Arg Met Arg Gln Phe Asp Asp Leu Phe Arg Gly		
185	190	195
Glu Thr Gly Lys Asp Arg Glu Lys Ser His Ser Trp Leu Ser Thr		
200	205	210
Gly Trp Phe Thr Met Val Ile Ala Val Glu Leu Cys Asp His Val		
215	220	225
His Val Tyr Gly Met Val Pro Pro Asn Tyr Cys Ser Gln Arg Pro		
230	235	240
Arg Leu Gln Arg Met Pro Tyr His Tyr Tyr Glu Pro Lys Gly Pro		
245	250	255
Asp Glu Cys Val Thr Tyr Ile Gln Asn Glu His Ser Arg Lys Gly		

260	265	270
Asn His His Arg Phe Ile Thr Glu Lys Arg Val Phe Ser Ser Trp		
275	280	285
Ala Gln Leu Tyr Gly Ile Thr Phe Ser His Pro Ser Trp Thr		
290	295	

<210> 57  
 <211> 4277  
 <212> DNA  
 <213> Homo sapiens

<400> 57  
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aataaatgtt tagtcttccc tgtaaaa 4277

<210> 58

<211> 1115

<212> PRT

<213> Homo sapiens

<400> 58

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Val Thr Leu Ala Cys Leu Leu Leu Ala Thr Ala Gly Cys Phe Ala  
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Asp Leu Asn Glu Val Pro Gln Val Thr Val Gln Pro Ala Ser Thr  
35 40 45

Val Gln Lys Pro Gly Gly Thr Val Ile Leu Gly Cys Val Val Glu  
50 55 60

Pro Pro Arg Met Asn Val Thr Trp Arg Leu Asn Gly Lys Glu Leu  
65 70 75

Asn Gly Ser Asp Asp Ala Leu Gly Val Leu Ile Thr His Gly Thr  
80 85 90

Leu Val Ile Thr Ala Leu Asn Asn His Thr Val Gly Arg Tyr Gln  
95 100 105

Cys Val Ala Arg Met Pro Ala Gly Ala Val Ala Ser Val Pro Ala  
110 115 120

Thr Val Thr Leu Ala Asn Leu Gln Asp Phe Lys Leu Asp Val Gln  
125 130 135

His Val Ile Glu Val Asp Glu Gly Asn Thr Ala Val Ile Ala Cys  
140 145 150

His Leu Pro Glu Ser His Pro Lys Ala Gln Val Arg Tyr Ser Val  
155 160 165

Lys Gln Glu Trp Leu Glu Ala Ser Arg Gly Asn Tyr Leu Ile Met  
170 175 180

Pro Ser Gly Asn Leu Gln Ile Val Asn Ala Ser Gln Glu Asp Glu

185	190	195
Gly Met Tyr Lys Cys Ala Ala Tyr Asn Pro Val Thr Gln Glu Val		
200	205	210
Lys Thr Ser Gly Ser Ser Asp Arg Leu Arg Val Arg Arg Ser Thr		
215	220	225
Ala Glu Ala Ala Arg Ile Ile Tyr Pro Pro Glu Ala Gln Thr Ile		
230	235	240
Ile Val Thr Lys Gly Gln Ser Leu Ile Leu Glu Cys Val Ala Ser		
245	250	255
Gly Ile Pro Pro Pro Arg Val Thr Trp Ala Lys Asp Gly Ser Ser		
260	265	270
Val Thr Gly Tyr Asn Lys Thr Arg Phe Leu Leu Ser Asn Leu Leu		
275	280	285
Ile Asp Thr Thr Ser Glu Glu Asp Ser Gly Thr Tyr Arg Cys Met		
290	295	300
Ala Asp Asn Gly Val Gly Gln Pro Gly Ala Ala Val Ile Leu Tyr		
305	310	315
Asn Val Gln Val Phe Glu Pro Pro Glu Val Thr Met Glu Leu Ser		
320	325	330
Gln Leu Val Ile Pro Trp Gly Gln Ser Ala Lys Leu Thr Cys Glu		
335	340	345
Val Arg Gly Asn Pro Pro Pro Ser Val Leu Trp Leu Arg Asn Ala		
350	355	360
Val Pro Leu Ile Ser Ser Gln Arg Leu Arg Leu Ser Arg Arg Ala		
365	370	375
Leu Arg Val Leu Ser Met Gly Pro Glu Asp Glu Gly Val Tyr Gln		
380	385	390
Cys Met Ala Glu Asn Glu Val Gly Ser Ala His Ala Val Val Gln		
395	400	405
Leu Arg Thr Ser Arg Pro Ser Ile Thr Pro Arg Leu Trp Gln Asp		

410	415	420
Ala Glu Leu Ala Thr Gly Thr Pro Pro Val Ser Pro Ser Lys Leu		
425	430	435
Gly Asn Pro Glu Gln Met Leu Arg Gly Gln Pro Ala Leu Pro Arg		
440	445	450
Pro Pro Thr Ser Val Gly Pro Ala Ser Pro Lys Cys Pro Gly Glu		
455	460	465
Lys Gly Gln Gly Ala Pro Ala Glu Ala Pro Ile Ile Leu Ser Ser		
470	475	480
Pro Arg Thr Ser Lys Thr Asp Ser Tyr Glu Leu Val Trp Arg Pro		
485	490	495
Arg His Glu Gly Ser Gly Arg Ala Pro Ile Leu Tyr Tyr Val Val		
500	505	510
Lys His Arg Lys Gln Val Thr Asn Ser Ser Asp Asp Trp Thr Ile		
515	520	525
Ser Gly Ile Pro Ala Asn Gln His Arg Leu Thr Leu Thr Arg Leu		
530	535	540
Asp Pro Gly Ser Leu Tyr Glu Val Glu Met Ala Ala Tyr Asn Cys		
545	550	555
Ala Gly Glu Gly Gln Thr Ala Met Val Thr Phe Arg Thr Gly Arg		
560	565	570
Arg Pro Lys Pro Glu Ile Met Ala Ser Lys Glu Gln Gln Ile Gln		
575	580	585
Arg Asp Asp Pro Gly Ala Ser Pro Gln Ser Ser Ser Gln Pro Asp		
590	595	600
His Gly Arg Leu Ser Pro Pro Glu Ala Pro Asp Arg Pro Thr Ile		
605	610	615
Ser Thr Ala Ser Glu Thr Ser Val Tyr Val Thr Trp Ile Pro Arg		
620	625	630
Gly Asn Gly Gly Phe Pro Ile Gln Ser Phe Arg Val Glu Tyr Lys		



635	640	645
Lys Leu Lys Lys Val Gly Asp Trp Ile Leu Ala Thr Ser Ala Ile		
650	655	660
Pro Pro Ser Arg Leu Ser Val Glu Ile Thr Gly Leu Glu Lys Gly		
665	670	675
Thr Ser Tyr Lys Phe Arg Val Arg Ala Leu Asn Met Leu Gly Glu		
680	685	690
Ser Glu Pro Ser Ala Pro Ser Arg Pro Tyr Val Val Ser Gly Tyr		
695	700	705
Ser Gly Arg Val Tyr Glu Arg Pro Val Ala Gly Pro Tyr Ile Thr		
710	715	720
Phe Thr Asp Ala Val Asn Glu Thr Thr Ile Met Leu Lys Trp Met		
725	730	735
Tyr Ile Pro Ala Ser Asn Asn Asn Thr Pro Ile His Gly Phe Tyr		
740	745	750
Ile Tyr Tyr Arg Pro Thr Asp Ser Asp Asn Asp Ser Asp Tyr Lys		
755	760	765
Lys Asp Met Val Glu Gly Asp Lys Tyr Trp His Ser Ile Ser His		
770	775	780
Leu Gln Pro Glu Thr Ser Tyr Asp Ile Lys Met Gln Cys Phe Asn		
785	790	795
Glu Gly Gly Glu Ser Glu Phe Ser Asn Val Met Ile Cys Glu Thr		
800	805	810
Lys Ala Arg Lys Ser Ser Gly Gln Pro Gly Arg Leu Pro Pro Pro		
815	820	825
Thr Leu Ala Pro Pro Gln Pro Pro Leu Pro Glu Thr Ile Glu Arg		
830	835	840
Pro Val Gly Thr Gly Ala Met Val Ala Arg Ser Ser Asp Leu Pro		
845	850	855
Tyr Leu Ile Val Gly Val Val Leu Gly Ser Ile Val Leu Ile Ile		

860	865	870
Val Thr Phe Ile Pro Phe Cys Leu Trp Arg Ala Trp Ser Lys Gln		
875	880	885
Lys His Thr Thr Asp Leu Gly Phe Pro Arg Ser Ala Leu Pro Pro		
890	895	900
Ser Cys Pro Tyr Thr Met Val Pro Leu Gly Gly Leu Pro Gly His		
905	910	915
Gln Ala Ser Gly Gln Pro Tyr Leu Ser Gly Ile Ser Gly Arg Ala		
920	925	930
Cys Ala Asn Gly Ile His Met Asn Arg Gly Cys Pro Ser Ala Ala		
935	940	945
Val Gly Tyr Pro Gly Met Lys Pro Gln Gln His Cys Pro Gly Glu		
950	955	960
Leu Gln Gln Gln Ser Asp Thr Ser Ser Leu Leu Arg Gln Thr His		
965	970	975
Leu Gly Asn Gly Tyr Asp Pro Gln Ser His Gln Ile Thr Arg Gly		
980	985	990
Pro Lys Ser Ser Pro Asp Glu Gly Ser Phe Leu Tyr Thr Leu Pro		
995	1000	1005
Asp Asp Ser Thr His Gln Leu Leu Gln Pro His His Asp Cys Cys		
1010	1015	1020
Gln Arg Gln Glu Gln Pro Ala Ala Val Gly Gln Ser Gly Val Arg		
1025	1030	1035
Arg Ala Pro Asp Ser Pro Val Leu Glu Ala Val Trp Asp Pro Pro		
1040	1045	1050
Phe His Ser Gly Pro Pro Cys Cys Leu Gly Leu Val Pro Val Glu		
1055	1060	1065
Glu Val Asp Ser Pro Asp Ser Cys Gln Val Ser Gly Gly Asp Trp		
1070	1075	1080
Cys Pro Gln His Pro Val Gly Ala Tyr Val Gly Gln Glu Pro Gly		

1085

1090

1095

Met Gln Leu Ser Pro Gly Pro Leu Val Arg Val Ser Phe Glu Thr  
1100 1105 1110

Pro Pro Leu Thr Ile  
1115

<210> 59

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 59

gggaaacaca gcagtcattg cctgc 25

<210> 60

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 60

gcacacgtag cctgtcgctg gagg 24

<210> 61

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 61

caccccaaag cccaggtccg gtacagcgtc aaacaagagt gg 42

<210> 62

<211> 1661

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 678

<223> unknown base

<400> 62

cgggaggctg ggtcgtcatg atccggaccc cattgtcggc ctctgccat 50

cgctgtctcc tcccaggctc ccgcggccga ccccgcgca acatgcagcc 100

cacgggccgc gaggggtccc gcgcgtcag ccggcggtat ctgcggcgtc 150

tgctgtctct gctactgtg ctgtgtgc ggcagcccg aaccgcgcg 200

gagaccacgc cgggcgcccc cagagccctc tccacgtgg gtcccccag 250

cctcttacc acgccgggtg tcccagcgc cctactacc ccaggcctca 300

ctacgccagg ccccccaaa accctggacc ttcggggtcg cgcgcaggcc 350

ctgatgcgga gtttccact cgtggacggc cacaatgacc tgcccaggt 400

cctgagacag cgttacaaga atgtgttca ggatgttaac ctgcgaaatt 450

tcagccatgg tcagaccagc ctggacaggc ttagagacgg cctcgtgggt 500

gcccagttct ggtcagcctc cgtctcatgc cagtcccagg accagactgc 550

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<210> 63

<211> 487

<212> PRT.

<213> Homo sapiens

<220>

<221> unsure

<222> 196, 386

<223> unknown amino acid

<400> 63

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Tyr Leu Arg Arg Leu Leu Leu Leu Leu Leu Leu Arg

20 25 30

Gln Pro Val Thr Arg Ala Glu Thr Thr Pro Gly Ala Pro Arg Ala  
35 40 45

Leu Ser Thr Leu Gly Ser Pro Ser Leu Phe Thr Thr Pro Gly Val  
50 55 60

Pro Ser Ala Leu Thr Thr Pro Gly Leu Thr Thr Pro Gly Thr Pro  
65 70 75

Lys Thr Leu Asp Leu Arg Gly Arg Ala Gln Ala Leu Met Arg Ser  
80 85 90

Phe Pro Leu Val Asp Gly His Asn Asp Leu Pro Gln Val Leu Arg  
95 100 105

Gln Arg Tyr Lys Asn Val Leu Gln Asp Val Asn Leu Arg Asn Phe  
110 115 120

Ser His Gly Gln Thr Ser Leu Asp Arg Leu Arg Asp Gly Leu Val  
125 130 135

Gly Ala Gln Phe Trp Ser Ala Ser Val Ser Cys Gln Ser Gln Asp  
140 145 150

Gln Thr Ala Val Arg Leu Ala Leu Glu Gln Ile Asp Leu Ile His  
155 160 165

Arg Met Cys Ala Ser Tyr Ser Glu Leu Glu Leu Val Thr Ser Ala  
170 175 180

Glu Gly Leu Asn Ser Ser Gln Lys Leu Ala Cys Leu Ile Gly Val  
185 190 195

Xaa Gly Gly His Ser Leu Asp Ser Ser Leu Ser Val Leu Arg Ser  
200 205 210

Phe Tyr Val Leu Gly Val Arg Tyr Leu Thr Leu Thr Phe Thr Cys  
215 220 225

Ser Thr Pro Trp Ala Glu Ser Ser Thr Lys Phe Arg His His Met  
230 235 240

Tyr Thr Asn Val Ser Gly Leu Thr Ser Phe Gly Glu Lys Val Val  
245 250 255

Glu Glu Leu Asn Arg Leu Gly Met Met Ile Asp Leu Ser Tyr Ala  
260 265 270

Ser Asp Thr Leu Ile Arg Arg Val Leu Glu Val Ser Gln Ala Pro  
275 280 285

Val Ile Phe Ser His Ser Ala Ala Arg Ala Val Cys Asp Asn Leu  
290 295 300

Leu Asn Val Pro Asp Asp Ile Leu Gln Leu Leu Lys Asn Gly Gly  
305 310 315

Ile Val Met Val Thr Leu Ser Met Gly Val Leu Gln Cys Asn Leu  
320 325 330

Leu Ala Asn Val Ser Thr Val Ala Asp His Phe Asp His Ile Arg  
335 340 345

Ala Val Ile Gly Ser Glu Phe Ile Gly Ile Gly Gly Asn Tyr Asp  
350 355 360

Gly Thr Gly Arg Phe Pro Gln Gly Leu Glu Asp Val Ser Thr Tyr  
365 370 375

Pro Val Leu Ile Glu Glu Leu Leu Ser Arg Xaa Trp Ser Glu Glu  
380 385 390

Glu Leu Gln Gly Val Leu Arg Gly Asn Leu Leu Arg Val Phe Arg  
395 400 405

Gln Val Glu Lys Val Arg Glu Glu Ser Arg Ala Gln Ser Pro Val  
410 415 420

Glu Ala Glu Phe Pro Tyr Gly Gln Leu Ser Thr Ser Cys His Ser  
425 430 435

His Leu Val Pro Gln Asn Gly His Gln Ala Thr His Leu Glu Val  
440 445 450

Thr Lys Gln Pro Thr Asn Arg Val Pro Trp Arg Ser Ser Asn Ala  
455 460 465

Ser Pro Tyr Leu Val Pro Gly Leu Val Ala Ala Ala Thr Ile Pro  
470 475 480

Thr Phe Thr Gln Trp Leu Cys  
485

<210> 64

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 64

ccttcacctg cagtacacca tgggc 25

<210> 65

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 65

gtcacacaca gctctggcag ctgag 25

<210> 66

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 66

ccaagttcag acaccacatg tacaccaacg tcagcggatt gacaagc 47

<210> 67

<211> 1564

<212> DNA

<213> Homo sapiens

<400> 67

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aacaccaca gatccctcta tgactgcaat gtgaggtgtc cggctttgct 100



ggcccagcaa gcctgataag catgaagctc ttaicttttg tgctgtggt 150  
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tccggtgcaa atgcatctgt ccaccttata gaaacatcag tgggcacatt 250  
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<210> 68  
 <211> 183  
 <212> PRT  
 <213> Homo sapiens

<400> 68  
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 Pro Pro Ala Glu Ala Asn Lys Ser Ser Glu Asp Ile Arg Cys Lys  
 20 25 30  
 Cys Ile Cys Pro Pro Tyr Arg Asn Ile Ser Gly His Ile Tyr Asn  
 35 40 45  
 Gln Asn Val Ser Gln Lys Asp Cys Asn Cys Leu His Val Val Glu  
 50 55 60  
 Pro Met Pro Val Pro Gly His Asp Val Glu Ala Tyr Cys Leu Leu  
 65 70 75  
 Cys Glu Cys Arg Tyr Glu Glu Arg Ser Thr Thr Thr Ile Lys Val  
 80 85 90  
 Ile Ile Val Ile Tyr Leu Ser Val Val Gly Ala Leu Leu Leu Tyr  
 95 100 105  
 Met Ala Phe Leu Met Leu Val Asp Pro Leu Ile Arg Lys Pro Asp  
 110 115 120  
 Ala Tyr Thr Glu Gln Leu His Asn Glu Glu Glu Asn Glu Asp Ala

125	130	135
Arg Ser Met Ala Ala Ala Ala Ser Leu Gly Gly Pro Arg Ala		
140	145	150
Asn Thr Val Leu Glu Arg Val Glu Gly Ala Gln Gln Arg Trp Lys		
155	160	165
Leu Gln Val Gln Glu Gln Arg Lys Thr Val Phe Asp Arg His Lys		
170	175	180
Met Leu Ser		

<210> 69  
 <211> 3170  
 <212> DNA  
 <213> Homo sapiens

<400> 69  
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 tccctttgca ttccacccc tccgggcttt gcgtcttctt ggggaccccc 200  
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<210> 70

<211> 259

<212> PRT

<213> Homo sapiens

<400> 70

Met Ala Ala Leu Met Arg Ser Lys Asp Ser Ser Cys Cys Leu Leu  
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 20 25 30

Ser Arg Ala Lys Leu Asn Ser Ile Lys Ser Ser Leu Gly Gly Glu  
 35 40 45

Thr Pro Gly Gln Ala Ala Asn Arg Ser Ala Gly Met Tyr Gln Gly  
 50 55 60

Leu Ala Phe Gly Gly Ser Lys Lys Gly Lys Asn Leu Gly Gln Ala  
 65 70 75

Tyr Pro Cys Ser Ser Asp Lys Glu Cys Glu Val Gly Arg Tyr Cys  
 80 85 90

His Ser Pro His Gln Gly Ser Ser Ala Cys Met Val Cys Arg Arg  
 95 100 105

Lys Lys Lys Arg Cys His Arg Asp Gly Met Cys Cys Pro Ser Thr  
 110 115 120

Arg Cys Asn Asn Gly Ile Cys Ile Pro Val Thr Glu Ser Ile Leu  
 125 130 135

Thr Pro His Ile Pro Ala Leu Asp Gly Thr Arg His Arg Asp Arg  
 140 145 150

Asn His Gly His Tyr Ser Asn His Asp Leu Gly Trp Gln Asn Leu  
155 160 165

Gly Arg Pro His Thr Lys Met Ser His Ile Lys Gly His Glu Gly  
170 175 180

Asp Pro Cys Leu Arg Ser Ser Asp Cys Ile Glu Gly Phe Cys Cys  
185 190 195

Ala Arg His Phe Trp Thr Lys Ile Cys Lys Pro Val Leu His Gln  
200 205 210

Gly Glu Val Cys Thr Lys Gln Arg Lys Lys Gly Ser His Gly Leu  
215 220 225

Glu Ile Phe Gln Arg Cys Asp Cys Ala Lys Gly Leu Ser Cys Lys  
230 235 240

Val Trp Lys Asp Ala Thr Tyr Ser Ser Lys Ala Arg Leu His Val  
245 250 255

Cys Gln Lys Ile

<210> 71

<211> 1809

<212> DNA

<213> Homo sapiens

<400> 71

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acatcacgtt tttaaaatt gatttctca aattcatggc aaatatttcc 150

cttccttta acttcttatg tcagaatgag gaaggatagc tgcatttatt 200

tagtcagttt tcattgcata gtaatatatt catgtagtat ttctaagtt 250

atattttagt aattcatatg ttttagatta taggttttaa catactgtg 300

aaaatactg atgtgttta aagccttggg cagaaattct gtattgtga 350

ggattgttc ttttatcccc cttttaagt catccgtcct tggctcagga 400

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 gccgggtgtg gtggcggcgc gtgcctgtaa tcccagctac ttgggagget 1750  
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<210> 72

<211> 363

<212> PRT

<213> Homo sapiens

<400> 72

Met Cys Phe Lys Ala Leu Gly Arg Asn Ser Val Leu Leu Arg Ile

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Cys Ser Phe Ile Pro Leu Leu Lys Ser Ser Val Leu Gly Ser Gly

20 25 30

Phe Gly Glu Leu Ala Pro Pro Lys Met Ala Asn Ile Thr Ser Ser

35 40 45

Gln Ile Leu Asp Gln Leu Lys Ala Pro Ser Leu Gly Gln Phe Thr

50 55 60

Thr Thr Pro Ser Thr Gln Gln Asn Ser Thr Ser His Pro Thr Thr

65 70 75

Thr Thr Ser Trp Asp Leu Lys Pro Pro Thr Ser Gln Ser Ser Val

80 85 90

Leu Ser His Leu Asp Phe Lys Ser Gln Pro Glu Pro Ser Pro Val

95 100 105

Leu Ser Gln Leu Ser Gln Arg Gln Gln His Gln Ser Gln Ala Val

110 115 120

Thr Val Pro Pro Pro Gly Leu Glu Ser Phe Pro Ser Gln Ala Lys

125 130 135

Leu Arg Glu Ser Thr Pro Gly Asp Ser Pro Ser Thr Val Asn Lys  
140 145 150

Leu Leu Gln Leu Pro Ser Thr Thr Ile Glu Asn Ile Ser Val Ser  
155 160 165

Val His Gln Pro Gln Pro Lys His Ile Lys Leu Ala Lys Arg Arg  
170 175 180

Ile Pro Pro Ala Ser Lys Ile Pro Ala Ser Ala Val Glu Met Pro  
185 190 195

Gly Ser Ala Asp Val Thr Gly Leu Asn Val Gln Phe Gly Ala Leu  
200 205 210

Glu Phe Gly Ser Glu Pro Ser Leu Ser Glu Phe Gly Ser Ala Pro  
215 220 225

Ser Ser Glu Asn Ser Asn Gln Ile Pro Ile Ser Leu Tyr Ser Lys  
230 235 240

Ser Leu Ser Glu Pro Leu Asn Thr Ser Leu Ser Met Thr Ser Ala  
245 250 255

Val Gln Asn Ser Thr Tyr Thr Thr Ser Val Ile Thr Ser Cys Ser  
260 265 270

Leu Thr Ser Ser Ser Leu Asn Ser Ala Ser Pro Val Ala Met Ser  
275 280 285

Ser Ser Tyr Asp Gln Ser Ser Val His Asn Arg Ile Pro Tyr Gln  
290 295 300

Ser Pro Val Ser Ser Ser Glu Ser Ala Pro Gly Thr Ile Met Asn  
305 310 315

Gly His Gly Gly Gly Arg Ser Gln Gln Thr Leu Asp Ser Lys Tyr  
320 325 330

Ser Ser Lys Leu Leu Leu Ser Trp Leu Val Pro Thr Lys Gln Arg  
335 340 345

Lys Arg Ile Ala His Val Met Trp Lys Thr Pro Val Gly Gln Trp  
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Leu Ile Arg

<210> 73

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 73

aattcatggc aaatatttcc cttccc 26

<210> 74

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 74

tggtaaactg gcccaaactc gg 22

<210> 75

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 75

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<210> 76

<211> 1989

<212> DNA

<213> Homo sapiens

<400> 76

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<210> 77

<211> 341

<212> PRT

<213> Homo sapiens

<400> 77

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Gln	Ser	Ser	Ala	Val	Leu	Leu	His	Ser	Ala	Val	Glu	Glu	Thr	Asp
		20			25				30					

Ala	Gly	Leu	Tyr	Thr	Cys	Asn	Leu	His	His	His	Tyr	Cys	His	Leu
		35			40				45					

Tyr Glu Ser Leu Ala Val Arg Leu Glu Val Thr Asp Gly Pro Pro  
50 55 60

Ala Thr Pro Ala Tyr Trp Asp Gly Glu Lys Glu Val Leu Ala Val  
65 70 75

Ala Arg Gly Ala Pro Ala Leu Leu Thr Cys Val Asn Arg Gly His  
80 85 90

Val Trp Thr Asp Arg His Val Glu Glu Ala Gln Gln Val Val His  
95 100 105

Trp Asp Arg Gln Pro Pro Gly Val Pro His Asp Arg Ala Asp Arg  
110 115 120

Leu Leu Asp Leu Tyr Ala Ser Gly Glu Arg Arg Ala Tyr Gly Pro  
125 130 135

Leu Phe Leu Arg Asp Arg Val Ala Val Gly Ala Asp Ala Phe Glu  
140 145 150

Arg Gly Asp Phe Ser Leu Arg Ile Glu Pro Leu Glu Val Ala Asp  
155 160 165

Glu Gly Thr Tyr Ser Cys His Leu His His His Tyr Cys Gly Leu  
170 175 180

His Glu Arg Arg Val Phe His Leu Thr Val Ala Glu Pro His Ala  
185 190 195

Glu Pro Pro Pro Arg Gly Ser Pro Gly Asn Gly Ser Ser His Ser  
200 205 210

Gly Ala Pro Gly Pro Asp Pro Thr Leu Ala Arg Gly His Asn Val  
215 220 225

Ile Asn Val Ile Val Pro Glu Ser Arg Ala His Phe Phe Gln Gln  
230 235 240

Leu Gly Tyr Val Leu Ala Thr Leu Leu Leu Phe Ile Leu Leu Leu  
245 250 255

Val Thr Val Leu Leu Ala Ala Arg Arg Arg Arg Gly Gly Tyr Glu  
260 265 270

Tyr Ser Asp Gln Lys Ser Gly Lys Ser Lys Gly Lys Asp Val Asn  
275 280 285

Leu Ala Glu Phe Ala Val Ala Ala Gly Asp Gln Met Leu Tyr Arg  
290 295 300

Ser Glu Asp Ile Gln Leu Asp Tyr Lys Asn Asn Ile Leu Lys Glu  
305 310 315

Arg Ala Glu Leu Ala His Ser Pro Leu Pro Ala Lys Tyr Ile Asp  
320 325 330

Leu Asp Lys Gly Phe Arg Lys Glu Asn Cys Lys  
335 340

<210> 78

<211> 2243

<212> DNA

<213> Homo sapiens

<400> 78

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cgccccctgg cctgcagagg cccgaggacc gttctgtgg cacatacatc 200

atcttctca gcttgggcat tggcagtcta ctgcatgga acttctttat 250

cactgccaag gactactgga tgtcaaact ccgcaactcc tccagcccag 300

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<210> 79

<211> 475

<212> PRT

<213> Homo sapiens

<400> 79

Met	Ala	Val	Val	Ser	Glu	Asp	Asp	Phe	Gln	His	Ser	Ser	Asn	Ser
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Thr	Tyr	Gly	Thr	Thr	Ser	Ser	Ser	Leu	Arg	Ala	Asp	Gln	Glu	Ala
		20				25							30	

Leu	Leu	Glu	Lys	Leu	Leu	Asp	Arg	Pro	Pro	Pro	Gly	Leu	Gln	Arg
		35				40							45	

Pro	Glu	Asp	Arg	Phe	Cys	Gly	Thr	Tyr	Ile	Ile	Phe	Phe	Ser	Leu
		50				55							60	

Gly	Ile	Gly	Ser	Leu	Leu	Pro	Trp	Asn	Phe	Phe	Ile	Thr	Ala	Lys
		65				70							75	

Glu	Tyr	Trp	Met	Phe	Lys	Leu	Arg	Asn	Ser	Ser	Ser	Pro	Ala	Thr
		80				85							90	

Gly	Glu	Asp	Pro	Glu	Gly	Ser	Asp	Ile	Leu	Asn	Tyr	Phe	Glu	Ser
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

95	100	105
Tyr Leu Ala Val Ala Ser Thr Val Pro Ser Met Leu Cys Leu Val		
110	115	120
Ala Asn Phe Leu Leu Val Asn Arg Val Ala Val His Ile Arg Val		
125	130	135
Leu Ala Ser Leu Thr Val Ile Leu Ala Ile Phe Met Val Ile Thr		
140	145	150
Ala Leu Val Lys Val Asp Thr Ser Ser Trp Thr Arg Gly Phe Phe		
155	160	165
Ala Val Thr Ile Val Cys Met Val Ile Leu Ser Gly Ala Ser Thr		
170	175	180
Val Phe Ser Ser Ser Ile Tyr Gly Met Thr Gly Ser Phe Pro Met		
185	190	195
Arg Asn Ser Gln Ala Leu Ile Ser Gly Gly Ala Met Gly Gly Thr		
200	205	210
Val Ser Ala Val Ala Ser Leu Val Asp Leu Ala Ala Ser Ser Asp		
215	220	225
Val Arg Asn Ser Ala Leu Ala Phe Phe Leu Thr Ala Thr Ile Phe		
230	235	240
Leu Val Leu Cys Met Gly Leu Tyr Leu Leu Leu Ser Arg Leu Glu		
245	250	255
Tyr Ala Arg Tyr Tyr Met Arg Pro Val Leu Ala Ala His Val Phe		
260	265	270
Ser Gly Glu Glu Glu Leu Pro Gln Asp Ser Leu Ser Ala Pro Ser		
275	280	285
Val Ala Ser Arg Phe Ile Asp Ser His Thr Pro Pro Leu Arg Pro		
290	295	300
Ile Leu Lys Lys Thr Ala Ser Leu Gly Phe Cys Val Thr Tyr Val		
305	310	315
Phe Phe Ile Thr Ser Leu Ile Tyr Pro Ala Val Cys Thr Asn Ile		

320	325	330
Glu Ser Leu Asn Lys Gly Ser Gly Ser Leu Trp Thr Thr Lys Phe		
335	340	345
Phe Ile Pro Leu Thr Thr Phe Leu Leu Tyr Asn Phe Ala Asp Leu		
350	355	360
Cys Gly Arg Gln Leu Thr Ala Trp Ile Gln Val Pro Gly Pro Asn		
365	370	375
Ser Lys Ala Leu Pro Gly Phe Val Leu Leu Arg Thr Cys Leu Ile		
380	385	390
Pro Leu Phe Val Leu Cys Asn Tyr Gln Pro Arg Val His Leu Lys		
395	400	405
Thr Val Val Phe Gln Ser Asp Val Tyr Pro Ala Leu Leu Ser Ser		
410	415	420
Leu Leu Gly Leu Ser Asn Gly Tyr Leu Ser Thr Leu Ala Leu Leu		
425	430	435
Tyr Gly Pro Lys Ile Val Pro Arg Glu Leu Ala Glu Ala Thr Gly		
440	445	450
Val Val Met Ser Phe Tyr Val Cys Leu Gly Leu Thr Leu Gly Ser		
455	460	465
Ala Cys Ser Thr Leu Leu Val His Leu Ile		
470	475	

<210> 80

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 80

ttttgcggtc accattgtct gc 22

<210> 81

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 81

cgtaggtgac acagaagccc agg 23

<210> 82

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 82

tacggcatga ccggctcctt tctatgagg aactcccagg cactgatat 49

<210> 83

<211> 1844

<212> DNA

<213> Homo sapiens

<400> 83

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aaggctgaac gcagccaaga ccccttcgag aaatgcatgc aggatcctga 200

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<210> 84

<211> 567

<212> PRT

<213> Homo sapiens

<400> 84

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20 25 30

Asp Pro Phe Glu Lys Cys Met Gln Asp Pro Asp Tyr Glu Gln Leu  
35 40 45

Leu Lys Val Val Thr Trp Gly Leu Asn Arg Thr Leu Lys Pro Gln  
50 55 60

Arg Val Ile Val Val Gly Ala Gly Val Ala Gly Leu Val Ala Ala  
65 70 75

Lys Val Leu Ser Asp Ala Gly His Lys Val Thr Ile Leu Glu Ala  
80 85 90

Asp Asn Arg Ile Gly Gly Arg Ile Phe Thr Tyr Arg Asp Gln Asn  
95 100 105

Thr Gly Trp Ile Gly Glu Leu Gly Ala Met Arg Met Pro Ser Ser  
110 115 120

His Arg Ile Leu His Lys Leu Cys Gln Gly Leu Gly Leu Asn Leu  
125 130 135

Thr Lys Phe Thr Gln Tyr Asp Lys Asn Thr Trp Thr Glu Val His  
140 145 150

Glu Val Lys Leu Arg Asn Tyr Val Val Glu Lys Val Pro Glu Lys

155	160	165
Leu Gly Tyr Ala Leu Arg Pro Gln Glu Lys Gly His Ser Pro Glu		
170	175	180
Asp Ile Tyr Gln Met Ala Leu Asn Gln Ala Leu Lys Asp Leu Lys		
185	190	195
Ala Leu Gly Cys Arg Lys Ala Met Lys Lys Phe Glu Arg His Thr		
200	205	210
Leu Leu Glu Tyr Leu Leu Gly Glu Gly Asn Leu Ser Arg Pro Ala		
215	220	225
Val Gln Leu Leu Gly Asp Val Met Ser Glu Asp Gly Phe Phe Tyr		
230	235	240
Leu Ser Phe Ala Glu Ala Leu Arg Ala His Ser Cys Leu Ser Asp		
245	250	255
Arg Leu Gln Tyr Ser Arg Ile Val Gly Gly Trp Asp Leu Leu Pro		
260	265	270
Arg Ala Leu Leu Ser Ser Leu Ser Gly Leu Val Leu Leu Asn Ala		
275	280	285
Pro Val Val Ala Met Thr Gln Gly Pro His Asp Val His Val Gln		
290	295	300
Ile Glu Thr Ser Pro Pro Ala Arg Asn Leu Lys Val Leu Lys Ala		
305	310	315
Asp Val Val Leu Leu Thr Ala Ser Gly Pro Ala Val Lys Arg Ile		
320	325	330
Thr Phe Ser Pro Pro Leu Pro Arg His Met Gln Glu Ala Leu Arg		
335	340	345
Arg Leu His Tyr Val Pro Ala Thr Lys Val Phe Leu Ser Phe Arg		
350	355	360
Arg Pro Phe Trp Arg Glu Glu His Ile Glu Gly Gly His Ser Asn		
365	370	375
Thr Asp Arg Pro Ser Arg Met Ile Phe Tyr Pro Pro Pro Arg Glu		

380	385	390
Gly Ala Leu Leu Leu Ala Ser Tyr Thr Trp Ser Asp Ala Ala Ala		
395	400	405
Ala Phe Ala Gly Leu Ser Arg Glu Glu Ala Leu Arg Leu Ala Leu		
410	415	420
Asp Asp Val Ala Ala Leu His Gly Pro Val Val Arg Gln Leu Trp		
425	430	435
Asp Gly Thr Gly Val Val Lys Arg Trp Ala Glu Asp Gln His Ser		
440	445	450
Gln Gly Gly Phe Val Val Gln Pro Pro Ala Leu Trp Gln Thr Glu		
455	460	465
Lys Asp Asp Trp Thr Val Pro Tyr Gly Arg Ile Tyr Phe Ala Gly		
470	475	480
Glu His Thr Ala Tyr Pro His Gly Trp Val Glu Thr Ala Val Lys		
485	490	495
Ser Ala Leu Arg Ala Ala Ile Lys Ile Asn Ser Arg Lys Gly Pro		
500	505	510
Ala Ser Asp Thr Ala Ser Pro Glu Gly His Ala Ser Asp Met Glu		
515	520	525
Gly Gln Gly His Val His Gly Val Ala Ser Ser Pro Ser His Asp		
530	535	540
Leu Ala Lys Glu Glu Gly Ser His Pro Pro Val Gln Gly Gln Leu		
545	550	555
Ser Leu Gln Asn Thr Thr His Thr Arg Thr Ser His		
560	565	

<210> 85

<211> 3316

<212> DNA

<213> Homo sapiens

<400> 85

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<210> 86

<211> 739

<212> PRT

<213> Homo sapiens

<400> 86

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Gly Ser Pro His Ser Leu Glu Ala Leu Arg Asp Ala Ala Pro Ser  
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Gln Gly Leu Asn Phe Leu Leu Leu Phe Thr Lys Met Leu Phe Ile  
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Phe Asn Phe Leu Phe Ser Pro Leu Pro Thr Pro Ala Leu Ile Cys  
65 70 75

Ile Leu Thr Phe Gly Ala Ala Ile Phe Leu Trp Leu Ile Thr Arg  
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Pro Gln Pro Val Leu Pro Leu Leu Asp Leu Asn Asn Gln Ser Val  
95 100 105

Gly Ile Glu Gly Gly Ala Arg Lys Gly Val Ser Gln Lys Asn Asn  
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Asp Leu Thr Ser Cys Cys Phe Ser Asp Ala Lys Thr Met Tyr Glu  
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Val Phe Gln Arg Gly Leu Ala Val Ser Asp Asn Gly Pro Cys Leu  
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Gly Tyr Arg Lys Pro Asn Gln Pro Tyr Arg Trp Leu Ser Tyr Lys  
155 160 165

Gln Val Ser Asp Arg Ala Glu Tyr Leu Gly Ser Cys Leu Leu His  
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Lys Gly Tyr Lys Ser Ser Pro Asp Gln Phe Val Gly Ile Phe Ala  
185 190 195

Gln Asn Arg Pro Glu Trp Ile Ile Ser Glu Leu Ala Cys Tyr Thr  
200 205 210

Tyr Ser Met Val Ala Val Pro Leu Tyr Asp Thr Leu Gly Pro Glu  
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Ala Ile Val His Ile Val Asn Lys Ala Asp Ile Ala Met Val Ile  
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Cys Asp Thr Pro Gln Lys Ala Leu Val Leu Ile Gly Asn Val Glu  
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Lys Gly Phe Thr Pro Ser Leu Lys Val Ile Ile Leu Met Asp Pro  
260 265 270

Phe Asp Asp Asp Leu Lys Gln Arg Gly Glu Lys Ser Gly Ile Glu  
275 280 285

Ile Leu Ser Leu Tyr Asp Ala Glu Asn Leu Gly Lys Glu His Phe  
290 295 300

Arg Lys Pro Val Pro Pro Ser Pro Glu Asp Leu Ser Val Ile Cys  
305 310 315

Phe Thr Ser Gly Thr Thr Gly Asp Pro Lys Gly Ala Met Ile Thr  
320 325 330

His Gln Asn Ile Val Ser Asn Ala Ala Ala Phe Leu Lys Cys Val  
335 340 345

Glu His Ala Tyr Glu Pro Thr Pro Asp Asp Val Ala Ile Ser Tyr  
350 355 360

Leu Pro Leu Ala His Met Phe Glu Arg Ile Val Gln Ala Val Val  
365 370 375

Tyr Ser Cys Gly Ala Arg Val Gly Phe Phe Gln Gly Asp Ile Arg  
380 385 390

Leu Leu Ala Asp Asp Met Lys Thr Leu Lys Pro Thr Leu Phe Pro  
395 400 405

Ala Val Pro Arg Leu Leu Asn Arg Ile Tyr Asp Lys Val Gln Asn  
410 415 420

Glu Ala Lys Thr Pro Leu Lys Lys Phe Leu Leu Lys Leu Ala Val  
425 430 435

Ser Ser Lys Phe Lys Glu Leu Gln Lys Gly Ile Ile Arg His Asp  
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Ser Phe Trp Asp Lys Leu Ile Phe Ala Lys Ile Gln Asp Ser Leu  
455 460 465

Gly Gly Arg Val Arg Val Ile Val Thr Gly Ala Ala Pro Met Ser  
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Thr Ser Val Met Thr Phe Phe Arg Ala Ala Met Gly Cys Gln Val  
485 490 495

Tyr Glu Ala Tyr Gly Gln Thr Glu Cys Thr Gly Gly Cys Thr Phe  
500 505 510

Thr Leu Pro Gly Asp Trp Thr Ser Gly His Val Gly Val Pro Leu  
515 520 525

Ala Cys Asn Tyr Val Lys Leu Glu Asp Val Ala Asp Met Asn Tyr  
530 535 540

Phe Thr Val Asn Asn Glu Gly Glu Val Cys Ile Lys Gly Thr Asn  
545 550 555

Val Phe Lys Gly Tyr Leu Lys Asp Pro Glu Lys Thr Gln Glu Ala  
560 565 570

Leu Asp Ser Asp Gly Trp Leu His Thr Gly Asp Ile Gly Arg Trp  
575 580 585

Leu Pro Asn Gly Thr Leu Lys Ile Ile Asp Arg Lys Lys Asn Ile  
590 595 600

Phe Lys Leu Ala Gln Gly Glu Tyr Ile Ala Pro Glu Lys Ile Glu  
605 610 615

Asn Ile Tyr Asn Arg Ser Gln Pro Val Leu Gln Ile Phe Val His  
620 625 630

Gly Glu Ser Leu Arg Ser Ser Leu Val Gly Val Val Val Pro Asp  
635 640 645

Thr Asp Val Leu Pro Ser Phe Ala Ala Lys Leu Gly Val Lys Gly  
650 655 660

Ser Phe Glu Glu Leu Cys Gln Asn Gln Val Val Arg Glu Ala Ile  
665 670 675

Leu Glu Asp Leu Gln Lys Ile Gly Lys Glu Ser Gly Leu Lys Thr  
680 685 690

Phe Glu Gln Val Lys Ala Ile Phe Leu His Pro Glu Pro Phe Ser  
695 700 705

Ile Glu Asn Gly Leu Leu Thr Pro Thr Leu Lys Ala Lys Arg Gly  
710 715 720

Glu Leu Ser Lys Tyr Phe Arg Thr Gln Ile Asp Ser Leu Tyr Glu  
725 730 735

His Ile Gln Asp

<210> 87

<211> 2725

<212> DNA

<213> Homo sapiens

<400> 87

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<210> 88

<211> 660

<212> PRT

<213> Homo sapiens

<400> 88

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Arg Lys Lys Arg Ser Trp Tyr Leu Thr Trp Lys Tyr Lys Leu Thr  
20 25 30

Asn Gln Arg Ala Leu Arg Arg Phe Cys Gln Thr Gly Ala Val Leu  
35 40 45

Phe Leu Leu Val Thr Val Ile Val Asn Ile Lys Leu Ile Leu Asp  
50 55 60

Thr Arg Arg Ala Ile Ser Glu Ala Asn Glu Asp Pro Glu Pro Glu  
65 70 75

Gln Asp Tyr Asp Glu Ala Leu Gly Arg Leu Glu Pro Pro Arg Arg  
80 85 90

Arg Gly Ser Gly Pro Arg Arg Val Leu Asp Val Glu Val Tyr Ser  
95 100 105

Ser Arg Ser Lys Val Tyr Val Ala Val Asp Gly Thr Thr Val Leu  
110 115 120

Glu Asp Glu Ala Arg Glu Gln Gly Arg Gly Ile His Val Ile Val  
125 130 135

Leu Asn Gln Ala Thr Gly His Val Met Ala Lys Arg Val Phe Asp  
140 145 150

Thr Tyr Ser Pro His Glu Asp Glu Ala Met Val Leu Phe Leu Asn  
155 160 165

Met Val Ala Pro Gly Arg Val Leu Ile Cys Thr Val Lys Asp Glu  
170 175 180

Gly Ser Phe His Leu Lys Asp Thr Ala Lys Ala Leu Leu Arg Ser  
185 190 195

Leu Gly Ser Gln Ala Gly Pro Ala Leu Gly Trp Arg Asp Thr Trp  
200 205 210

Ala Phe Val Gly Arg Lys Gly Gly Pro Val Phe Gly Glu Lys His  
215 220 225

Ser Lys Ser Pro Ala Leu Ser Ser Trp Gly Asp Pro Val Leu Leu  
 230 235 240

Lys Thr Asp Val Pro Leu Ser Ser Ala Glu Glu Ala Glu Cys His  
 245 250 255

Trp Ala Asp Thr Glu Leu Asn Arg Arg Arg Arg Arg Phe Cys Ser  
 260 265 270

Lys Val Glu Gly Tyr Gly Ser Val Cys Ser Cys Lys Asp Pro Thr  
 275 280 285

Pro Ile Glu Phe Ser Pro Asp Pro Leu Pro Asp Asn Lys Val Leu  
 290 295 300

Asn Val Pro Val Ala Val Ile Ala Gly Asn Arg Pro Asn Tyr Leu  
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Tyr Arg Met Leu Arg Ser Leu Leu Ser Ala Gln Gly Val Ser Pro  
 320 325 330

Gln Met Ile Thr Val Phe Ile Asp Gly Tyr Tyr Glu Glu Pro Met  
 335 340 345

Asp Val Val Ala Leu Phe Gly Leu Arg Gly Ile Gln His Thr Pro  
 350 355 360

Ile Ser Ile Lys Asn Ala Arg Val Ser Gln His Tyr Lys Ala Ser  
 365 370 375

Leu Thr Ala Thr Phe Asn Leu Phe Pro Glu Ala Lys Phe Ala Val  
 380 385 390

Val Leu Glu Glu Asp Leu Asp Ile Ala Val Asp Phe Phe Ser Phe  
 395 400 405

Leu Ser Gln Ser Ile His Leu Leu Glu Glu Asp Asp Ser Leu Tyr  
 410 415 420

Cys Ile Ser Ala Trp Asn Asp Gln Gly Tyr Glu His Thr Ala Glu  
 425 430 435

Asp Pro Ala Leu Leu Tyr Arg Val Glu Thr Met Pro Gly Leu Gly  
 440 445 450

Trp Val Leu Arg Arg Ser Leu Tyr Lys Glu Glu Leu Glu Pro Lys  
455 460 465

Trp Pro Thr Pro Glu Lys Leu Trp Asp Trp Asp Met Trp Met Arg  
470 475 480

Met Pro Glu Gln Arg Arg Gly Arg Glu Cys Ile Ile Pro Asp Val  
485 490 495

Ser Arg Ser Tyr His Phe Gly Ile Val Gly Leu Asn Met Asn Gly  
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Tyr Phe His Glu Ala Tyr Phe Lys Lys His Lys Phe Asn Thr Val  
515 520 525

Pro Gly Val Gln Leu Arg Asn Val Asp Ser Leu Lys Lys Glu Ala  
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Tyr Glu Val Glu Val His Arg Leu Leu Ser Glu Ala Glu Val Leu  
545 550 555

Asp His Ser Lys Asn Pro Cys Glu Asp Ser Phe Leu Pro Asp Thr  
560 565 570

Glu Gly His Thr Tyr Val Ala Phe Ile Arg Met Glu Lys Asp Asp  
575 580 585

Asp Phe Thr Thr Trp Thr Gln Leu Ala Lys Cys Leu His Ile Trp  
590 595 600

Asp Leu Asp Val Arg Gly Asn His Arg Gly Leu Trp Arg Leu Phe  
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Arg Lys Lys Asn His Phe Leu Val Val Gly Val Pro Ala Ser Pro  
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Tyr Ser Val Lys Lys Pro Pro Ser Val Thr Pro Ile Phe Leu Glu  
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Pro Pro Pro Lys Glu Glu Gly Ala Pro Gly Ala Pro Glu Gln Thr  
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<400> 89

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<212> DNA

<213> Artificial Sequence

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<211> 47

<212> DNA

<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

<400> 93

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<210> 94

<211> 3037

<212> DNA

<213> Homo sapiens

<400> 94

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<210> 95

<211> 307

<212> PRT



<213> Homo sapiens

<400> 95

Met Asp Asp Phe Ile Ser Ile Ser Leu Leu Ser Leu Ala Met Leu  
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Val Gly Cys Tyr Val Ala Gly Ile Ile Pro Leu Ala Val Asn Phe  
20 25 30

Ser Glu Glu Arg Leu Lys Leu Val Thr Val Leu Gly Ala Gly Leu  
35 40 45

Leu Cys Gly Thr Ala Leu Ala Val Ile Val Pro Glu Gly Val His  
50 55 60

Ala Leu Tyr Glu Asp Ile Leu Glu Gly Lys His His Gln Ala Ser  
65 70 75

Glu Thr His Asn Val Ile Ala Ser Asp Lys Ala Ala Glu Lys Ser  
80 85 90

Val Val His Glu His Glu His Ser His Asp His Thr Gln Leu His  
95 100 105

Ala Tyr Ile Gly Val Ser Leu Val Leu Gly Phe Val Phe Met Leu  
110 115 120

Leu Val Asp Gln Ile Gly Asn Ser His Val His Ser Thr Asp Asp  
125 130 135

Pro Glu Ala Ala Arg Ser Ser Asn Ser Lys Ile Thr Thr Thr Leu  
140 145 150

Gly Leu Val Val His Ala Ala Ala Asp Gly Val Ala Leu Gly Ala  
155 160 165

Ala Ala Ser Thr Ser Gln Thr Ser Val Gln Leu Ile Val Phe Val  
170 175 180

Ala Ile Met Leu His Lys Ala Pro Ala Ala Phe Gly Leu Val Ser  
185 190 195

Phe Leu Met His Ala Gly Leu Glu Arg Asn Arg Ile Arg Lys His  
200 205 210

Leu Leu Val Phe Ala Leu Ala Ala Pro Val Met Ser Met Val Thr  
215 220 225

Tyr Leu Gly Leu Ser Lys Ser Ser Lys Glu Ala Leu Ser Glu Val  
230 235 240

Asn Ala Thr Gly Val Ala Met Leu Phe Ser Ala Gly Thr Phe Leu  
245 250 255

Tyr Val Ala Thr Val His Val Leu Pro Glu Val Gly Gly Ile Gly  
260 265 270

His Ser His Lys Pro Asp Ala Thr Gly Gly Arg Gly Leu Ser Arg  
275 280 285

Leu Glu Val Ala Ala Leu Val Leu Gly Cys Leu Ile Pro Leu Ile  
290 295 300

Leu Ser Val Gly His Gln His  
305

<210> 96

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 96

gttgtgggtg aataaaggag ggcag 25

<210> 97

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 97

ctgtgctcat gtcatggac aactg 25

<210> 98

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 98

ggatgatttc atctccatta gcctgctgtc tctggctatg ttggtgggat 50

<210> 99

<211> 1429

<212> DNA

<213> Homo sapiens

<400> 99

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ctgatttga gatgatgggc ttgggaaacg ggcgtcgcag catgaagtcg 150

ccgcccctcg tgctggccgc cctggtggcc tgcacatcg tcttgggctt 200

caactactgg attgcgagct cccggagcgt ggacctccag acacggatca 250

tggagctgga aggcagggtc cgcagggcgg ctgcagagag aggcgccgtg 300

gagctgaaga agaacagatt ccaggagag ctggagaagc agcgggagca 350

gcttgacaaa atccagtcca gccacaactt ccagctggag agcgtcaaca 400

agctgtacca ggacgaaaag gcggttttg tgaataacat caccacaggt 450

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<210> 100

<211> 401

<212> PRT

<213> Homo sapiens

<400> 100

Met Met Gly Leu Gly Asn Gly Arg Arg Ser Met Lys Ser Pro Pro

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Leu Val Leu Ala Ala Leu Val Ala Cys Ile Ile Val Leu Gly Phe

20 25 30

Asn Tyr Trp Ile Ala Ser Ser Arg Ser Val Asp Leu Gln Thr Arg

35 40 45

Ile Met Glu Leu Glu Gly Arg Val Arg Arg Ala Ala Ala Glu Arg

50 55 60

Gly Ala Val Glu Leu Lys Lys Asn Glu Phe Gln Gly Glu Leu Glu  
65 70 75

Lys Gln Arg Glu Gln Leu Asp Lys Ile Gln Ser Ser His Asn Phe  
80 85 90

Gln Leu Glu Ser Val Asn Lys Leu Tyr Gln Asp Glu Lys Ala Val  
95 100 105

Leu Val Asn Asn Ile Thr Thr Gly Glu Arg Leu Ile Arg Val Leu  
110 115 120

Gln Asp Gln Leu Lys Thr Leu Gln Arg Asn Tyr Gly Arg Leu Gln  
125 130 135

Gln Asp Val Leu Gln Phe Gln Lys Asn Gln Thr Asn Leu Glu Arg  
140 145 150

Lys Phe Ser Tyr Asp Leu Ser Gln Cys Ile Asn Gln Met Lys Glu  
155 160 165

Val Lys Glu Gln Cys Glu Glu Arg Ile Glu Glu Val Thr Lys Lys  
170 175 180

Gly Asn Glu Ala Val Ala Ser Arg Asp Leu Ser Glu Asn Asn Asp  
185 190 195

Gln Arg Gln Gln Leu Gln Ala Leu Ser Glu Pro Gln Pro Arg Leu  
200 205 210

Gln Ala Ala Gly Leu Pro His Thr Glu Val Pro Gln Gly Lys Gly  
215 220 225

Asn Val Leu Gly Asn Ser Lys Ser Gln Thr Pro Ala Pro Ser Ser  
230 235 240

Glu Val Val Leu Asp Ser Lys Arg Gln Val Glu Lys Glu Glu Thr  
245 250 255

Asn Glu Ile Gln Val Val Asn Glu Glu Pro Gln Arg Asp Arg Leu  
260 265 270

Pro Gln Glu Pro Gly Arg Glu Gln Val Val Glu Asp Arg Pro Val  
275 280 285

Gly Gly Arg Gly Phe Gly Gly Ala Gly Glu Leu Gly Gln Thr Pro  
290 295 300

Gln Val Gln Ala Ala Leu Ser Val Ser Gln Glu Asn Pro Glu Met  
305 310 315

Glu Gly Pro Glu Arg Asp Gln Leu Val Ile Pro Asp Gly Gln Glu  
320 325 330

Glu Glu Gln Glu Ala Ala Gly Glu Gly Arg Asn Gln Gln Lys Leu  
335 340 345

Arg Gly Glu Asp Asp Tyr Asn Met Asp Glu Asn Glu Ala Glu Ser  
350 355 360

Glu Thr Asp Lys Gln Ala Ala Leu Ala Gly Asn Asp Arg Asn Ile  
365 370 375

Asp Val Phe Asn Val Glu Asp Gln Lys Arg Asp Thr Ile Asn Leu  
380 385 390

Leu Asp Gln Arg Glu Lys Arg Asn His Thr Leu  
395 400

<210> 101

<211> 3671

<212> DNA

<213> Homo sapiens

<400> 101

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<210> 102

<211> 1089

<212> PRT

<213> Homo sapiens

<400> 102

Met Gln Lys Ala Ser Val Leu Leu Phe Leu Ala Trp Val Cys Phe  
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Leu Phe Tyr Ala Gly Ile Ala Leu Phe Thr Ser Gly Phe Leu Leu  
20 25 30

Thr Arg Leu Glu Leu Thr Asn His Ser Ser Cys Gln Glu Pro Pro  
35 40 45

Gly Pro Gly Ser Leu Pro Trp Gly Ser Gln Gly Lys Pro Gly Ala  
50 55 60

Cys Trp Met Ala Ser Arg Phe Ser Arg Val Val Leu Val Leu Ile  
65 70 75

Asp Ala Leu Arg Phe Asp Phe Ala Gln Pro Gln His Ser His Val  
80 85 90

Pro Arg Glu Pro Pro Val Ser Leu Pro Phe Leu Gly Lys Leu Ser  
95 100 105

Ser Leu Gln Arg Ile Leu Glu Ile Gln Pro His His Ala Arg Leu  
110 115 120

Tyr Arg Ser Gln Val Asp Pro Pro Thr Thr Thr Met Gln Arg Leu  
125 130 135

Lys Ala Leu Thr Thr Gly Ser Leu Pro Thr Phe Ile Asp Ala Gly  
140 145 150

Ser Asn Phe Ala Ser His Ala Ile Val Glu Asp Asn Leu Ile Lys  
155 160 165

Gln Leu Thr Ser Ala Gly Arg Arg Val Val Phe Met Gly Asp Asp  
170 175 180

Thr Trp Lys Asp Leu Phe Pro Gly Ala Phe Ser Lys Ala Phe Phe  
185 190 195

Phe Pro Ser Phe Asn Val Arg Asp Leu Asp Thr Val Asp Asn Gly  
200 205 210

Ile Leu Glu His Leu Tyr Pro Thr Met Asp Ser Gly Glu Trp Asp  
215 220 225

Val Leu Ile Ala His Phe Leu Gly Val Asp His Cys Gly His Lys	230	235	240
His Gly Pro His His Pro Glu Met Ala Lys Lys Leu Ser Gln Met	245	250	255
Asp Gln Val Ile Gln Gly Leu Val Glu Arg Leu Glu Asn Asp Thr	260	265	270
Leu Leu Val Val Ala Gly Asp His Gly Met Thr Thr Asn Gly Asp	275	280	285
His Gly Gly Asp Ser Glu Leu Glu Val Ser Ala Ala Leu Phe Leu	290	295	300
Tyr Ser Pro Thr Ala Val Phe Pro Ser Thr Pro Pro Glu Glu Pro	305	310	315
Glu Val Ile Pro Gln Val Ser Leu Val Pro Thr Leu Ala Leu Leu	320	325	330
Leu Gly Leu Pro Ile Pro Phe Gly Asn Ile Gly Glu Val Met Ala	335	340	345
Glu Leu Phe Ser Gly Gly Glu Asp Ser Gln Pro His Ser Ser Ala	350	355	360
Leu Ala Gln Ala Ser Ala Leu His Leu Asn Ala Gln Gln Val Ser	365	370	375
Arg Phe Leu His Thr Tyr Ser Ala Ala Thr Gln Asp Leu Gln Ala	380	385	390
Lys Glu Leu His Gln Leu Gln Asn Leu Phe Ser Lys Ala Ser Ala	395	400	405
Asp Tyr Gln Trp Leu Leu Gln Ser Pro Lys Gly Ala Glu Ala Thr	410	415	420
Leu Pro Thr Val Ile Ala Glu Leu Gln Gln Phe Leu Arg Gly Ala	425	430	435
Arg Ala Met Cys Ile Glu Ser Trp Ala Arg Phe Ser Leu Val Arg	440	445	450

Met Ala Gly Gly Thr Ala Leu Leu Ala Ala Ser Cys Phe Ile Cys  
455 460 465

Leu Leu Ala Ser Gln Trp Ala Ile Ser Pro Gly Phe Pro Phe Cys  
470 475 480

Pro Leu Leu Leu Thr Pro Val Ala Trp Gly Leu Val Gly Ala Ile  
485 490 495

Ala Tyr Ala Gly Leu Leu Gly Thr Ile Glu Leu Lys Leu Asp Leu  
500 505 510

Val Leu Leu Gly Ala Val Ala Ala Val Ser Ser Phe Leu Pro Phe  
515 520 525

Leu Trp Lys Ala Trp Ala Gly Trp Gly Ser Lys Arg Pro Leu Ala  
530 535 540

Thr Leu Phe Pro Ile Pro Gly Pro Val Leu Leu Leu Leu Phe  
545 550 555

Arg Leu Ala Val Phe Phe Ser Asp Ser Phe Val Val Ala Glu Ala  
560 565 570

Arg Ala Thr Pro Phe Leu Leu Gly Ser Phe Ile Leu Leu Leu Val  
575 580 585

Val Gln Leu His Trp Glu Gly Gln Leu Leu Pro Pro Lys Leu Leu  
590 595 600

Thr Met Pro Arg Leu Gly Thr Ser Ala Thr Thr Asn Pro Pro Arg  
605 610 615

His Asn Gly Ala Tyr Ala Leu Arg Leu Gly Ile Gly Leu Leu Leu  
620 625 630

Cys Thr Arg Leu Ala Gly Leu Phe His Arg Cys Pro Glu Glu Thr  
635 640 645

Pro Val Cys His Ser Ser Pro Trp Leu Ser Pro Leu Ala Ser Met  
650 655 660

Val Gly Gly Arg Ala Lys Asn Leu Trp Tyr Gly Ala Cys Val Ala  
665 670 675

Ala Leu Val Ala Leu Leu Ala Ala Val Arg Leu Trp Leu Arg Arg  
680 685 690

Tyr Gly Asn Leu Lys Ser Pro Glu Pro Pro Met Leu Phe Val Arg  
695 700 705

Trp Gly Leu Pro Leu Met Ala Leu Gly Thr Ala Ala Tyr Trp Ala  
710 715 720

Leu Ala Ser Gly Ala Asp Glu Ala Pro Pro Arg Leu Arg Val Leu  
725 730 735

Val Ser Gly Ala Ser Met Val Leu Pro Arg Ala Val Ala Gly Leu  
740 745 750

Ala Ala Ser Gly Leu Ala Leu Leu Leu Trp Lys Pro Val Thr Val  
755 760 765

Leu Val Lys Ala Gly Ala Gly Ala Pro Arg Thr Arg Thr Val Leu  
770 775 780

Thr Pro Phe Ser Gly Pro Pro Thr Ser Gln Ala Asp Leu Asp Tyr  
785 790 795

Val Val Pro Gln Ile Tyr Arg His Met Gln Glu Glu Phe Arg Gly  
800 805 810

Arg Leu Glu Arg Thr Lys Ser Gln Gly Pro Leu Thr Val Ala Ala  
815 820 825

Tyr Gln Leu Gly Ser Val Tyr Ser Ala Ala Met Val Thr Ala Leu  
830 835 840

Thr Leu Leu Ala Phe Pro Leu Leu Leu Leu His Ala Glu Arg Ile  
845 850 855

Ser Leu Val Phe Leu Leu Leu Phe Leu Gln Ser Phe Leu Leu Leu  
860 865 870

His Leu Leu Ala Ala Gly Ile Pro Val Thr Thr Pro Gly Pro Phe  
875 880 885

Thr Val Pro Trp Gln Ala Val Ser Ala Trp Ala Leu Met Ala Thr  
890 895 900

Gln Thr Phe Tyr Ser Thr Gly His Gln Pro Val Phe Pro Ala Ile  
905 910 915

His Trp His Ala Ala Phe Val Gly Phe Pro Glu Gly His Gly Ser  
920 925 930

Cys Thr Trp Leu Pro Ala Leu Leu Val Gly Ala Asn Thr Phe Ala  
935 940 945

Ser His Leu Leu Phe Ala Val Gly Cys Pro Leu Leu Leu Leu Trp  
950 955 960

Pro Phe Leu Cys Glu Ser Gln Gly Leu Arg Lys Arg Gln Gln Pro  
965 970 975

Pro Gly Asn Glu Ala Asp Ala Arg Val Arg Pro Glu Glu Glu Glu  
980 985 990

Glu Pro Leu Met Glu Met Arg Leu Arg Asp Ala Pro Gln His Phe  
995 1000 1005

Tyr Ala Ala Leu Leu Gln Leu Gly Leu Lys Tyr Leu Phe Ile Leu  
1010 1015 1020

Gly Ile Gln Ile Leu Ala Cys Ala Leu Ala Ala Ser Ile Leu Arg  
1025 1030 1035

Arg His Leu Met Val Trp Lys Val Phe Ala Pro Lys Phe Ile Phe  
1040 1045 1050

Glu Ala Val Gly Phe Ile Val Ser Ser Val Gly Leu Leu Leu Gly  
1055 1060 1065

Ile Ala Leu Val Met Arg Val Asp Gly Ala Val Ser Ser Trp Phe  
1070 1075 1080

Arg Gln Leu Phe Leu Ala Gln Gln Arg  
1085

<210> 103

<211> 1743

<212> DNA

<213> Homo sapiens

<400> 103

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tctggagtc aggggctggc cgttgttct atgcagagaa agcagtcaat 1700  
aatgtttgc cagactgggt gcagaattta ttcaggtggg tgt 1743

<210> 104

<211> 442

<212> PRT

<213> Homo sapiens

<400> 104

Met Ser Tyr Asn Gly Leu His Gln Arg Val Phe Lys Glu Leu Lys

1 5 10 15

Leu Leu Thr Leu Cys Ser Ile Ser Ser Gln Ile Gly Pro Pro Glu

20 25 30

Val Ala Leu Thr Thr Asp Glu Lys Ser Ile Ser Val Val Leu Thr

35 40 45

Ala Pro Glu Lys Trp Lys Arg Asn Pro Glu Asp Leu Pro Val Ser

50 55 60

Met Gln Gln Ile Tyr Ser Asn Leu Lys Tyr Asn Val Ser Val Leu

65 70 75



Asn Thr Lys Ser Asn Arg Thr Trp Ser Gln Cys Val Thr Asn His  
80 85 90

Thr Leu Val Leu Thr Trp Leu Glu Pro Asn Thr Leu Tyr Cys Val  
95 100 105

His Val Glu Ser Phe Val Pro Gly Pro Pro Arg Arg Ala Gln Pro  
110 115 120

Ser Glu Lys Gln Cys Ala Arg Thr Leu Lys Asp Gln Ser Ser Glu  
125 130 135

Phe Lys Ala Lys Ile Ile Phe Trp Tyr Val Leu Pro Ile Ser Ile  
140 145 150

Thr Val Phe Leu Phe Ser Val Met Gly Tyr Ser Ile Tyr Arg Tyr  
155 160 165

Ile His Val Gly Lys Glu Lys His Pro Ala Asn Leu Ile Leu Ile  
170 175 180

Tyr Gly Asn Glu Phe Asp Lys Arg Phe Phe Val Pro Ala Glu Lys  
185 190 195

Ile Val Ile Asn Phe Ile Thr Leu Asn Ile Ser Asp Asp Ser Lys  
200 205 210

Ile Ser His Gln Asp Met Ser Leu Leu Gly Lys Ser Ser Asp Val  
215 220 225

Ser Ser Leu Asn Asp Pro Gln Pro Ser Gly Asn Leu Arg Pro Pro  
230 235 240

Gln Glu Glu Glu Glu Val Lys His Leu Gly Tyr Ala Ser His Leu  
245 250 255

Met Glu Ile Phe Cys Asp Ser Glu Glu Asn Thr Glu Gly Thr Ser  
260 265 270

Leu Thr Gln Gln Glu Ser Leu Ser Arg Thr Ile Pro Pro Asp Lys  
275 280 285

Thr Val Ile Glu Tyr Glu Tyr Asp Val Arg Thr Thr Asp Ile Cys  
290 295 300

Ala Gly Pro Glu Glu Gln Glu Leu Ser Leu Gln Glu Glu Val Ser  
305 310 315

Thr Gln Gly Thr Leu Leu Glu Ser Gln Ala Ala Leu Ala Val Leu  
320 325 330

Gly Pro Gln Thr Leu Gln Tyr Ser Tyr Thr Pro Gln Leu Gln Asp  
335 340 345

Leu Asp Pro Leu Ala Gln Glu His Thr Asp Ser Glu Glu Gly Pro  
350 355 360

Glu Glu Glu Pro Ser Thr Thr Leu Val Asp Trp Asp Pro Gln Thr  
365 370 375

Gly Arg Leu Cys Ile Pro Ser Leu Ser Ser Phe Asp Gln Asp Ser  
380 385 390

Glu Gly Cys Glu Pro Ser Glu Gly Asp Gly Leu Gly Glu Glu Gly  
395 400 405

Leu Leu Ser Arg Leu Tyr Glu Glu Pro Ala Pro Asp Arg Pro Pro  
410 415 420

Gly Glu Asn Glu Thr Tyr Leu Met Gln Phe Met Glu Glu Trp Gly  
425 430 435

Leu Tyr Val Gln Met Glu Asn  
440

<210> 105

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 105

cgctgctgct gttgctcctg g 21

<210> 106

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 106

cagtgtgccca ggactttg 18

<210> 107

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 107

agtcgcaggc agcgttgg 18

<210> 108

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 108

ctcctccgag tctgtgtgct cctgc 25

<210> 109

<211> 51

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 109

ggacgggcag ttccctgtgt ctctggtggt ttgcctaaac ctgcaaacat 50

c 51

<210> 110

<211> 1114

<212> DNA

<213> Homo sapiens

<400> 110

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cgccagcctg cgtctgccat ggggctcggg ttgaggggct ggggacgtcc 100  
tctgtgact gtggccaccg ccctgatgct gcccgtgaag cccccgcag 150  
gtccttgggg ggcccagatc atcggggggcc acgaggtgac cccccactcc 200  
aggccctaca tggcatccgt gcgcttcggg ggccaacatc actgcggagg 250  
cttctgtctg cgagcccgt ggggtgtctc ggccggccac tgcttcagcc 300  
acagagacct ccgactggc ctggtggtgc tgggcgcca cgtctgagt 350  
actgcggagc ccaccagca ggtgtttggc atcgatgctc tcaccacga 400  
ccccgactac caccatga cccacgcaa cgacatctgc ctgctcggc 450  
tgaacggctc tgctgtctg ggcctgcag tggggctgct gaggctgcca 500  
gggagaaggg ccaggcccc cacagcggg acacggtgcc ggggtggctgg 550  
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ccccaggaga agccgcctga gccacaacct tgcggcatgc aaatgagatg 950  
gccgtccag gcctggaatg ttccgtggct gggcccccacg ggaagcctga 1000  
tgttcagggt tggggtggga cgggcagcgg tggggcacac ccattccaca 1050  
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aaaaaaaaa gaaa 1114

<210> 111

<211> 283

<212> PRT

<213> Homo sapiens

<400> 111

Met Gly Leu Gly Leu Arg Gly Trp Gly Arg Pro Leu Leu Thr Val  
1 5 10 15

Ala Thr Ala Leu Met Leu Pro Val Lys Pro Pro Ala Gly Ser Trp  
20 25 30

Gly Ala Gln Ile Ile Gly Gly His Glu Val Thr Pro His Ser Arg  
35 40 45

Pro Tyr Met Ala Ser Val Arg Phe Gly Gly Gln His His Cys Gly  
50 55 60

Gly Phe Leu Leu Arg Ala Arg Trp Val Val Ser Ala Ala His Cys  
65 70 75

Phe Ser His Arg Asp Leu Arg Thr Gly Leu Val Val Leu Gly Ala  
80 85 90

His Val Leu Ser Thr Ala Glu Pro Thr Gln Gln Val Phe Gly Ile  
95 100 105

Asp Ala Leu Thr Thr His Pro Asp Tyr His Pro Met Thr His Ala  
110 115 120

Asn Asp Ile Cys Leu Leu Arg Leu Asn Gly Ser Ala Val Leu Gly  
125 130 135

Pro Ala Val Gly Leu Leu Arg Leu Pro Gly Arg Arg Ala Arg Pro  
140 145 150

Pro Thr Ala Gly Thr Arg Cys Arg Val Ala Gly Trp Gly Phe Val  
155 160 165

Ser Asp Phe Glu Glu Leu Pro Pro Gly Leu Met Glu Ala Lys Val  
170 175 180

Arg Val Leu Asp Pro Asp Val Cys Asn Ser Ser Trp Lys Gly His

185	190	195
Leu Thr Leu Thr Met Leu Cys Thr Arg Ser Gly Asp Ser His Arg		
200	205	210
Arg Gly Phe Cys Ser Ala Asp Ser Gly Gly Pro Leu Val Cys Arg		
215	220	225
Asn Arg Ala His Gly Leu Val Ser Phe Ser Gly Leu Trp Cys Gly		
230	235	240
Asp Pro Lys Thr Pro Asp Val Tyr Thr Gln Val Ser Ala Phe Val		
245	250	255
Ala Trp Ile Trp Asp Val Val Arg Arg Ser Ser Pro Gln Pro Gly		
260	265	270
Pro Leu Pro Gly Thr Thr Arg Pro Pro Gly Glu Ala Ala		
275	280	

<210> 112

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 112

gacgtctgca acagctcctg gaag 24

<210> 113

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 113

cgagaaggaa acgaggccgt gag 23

<210> 114

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 114

tgacacttac catgctctgc acccgcagtg gggacagcca caga 44

<210> 115

<211> 1808

<212> DNA

<213> Homo sapiens

<400> 115

gagctaccca ggcggctggt gtgcagcaag ctccgcgccg actccggacg 50

cctgacgcct gacgcctgtc cccggcccgg catgagccgc tacctgtctg 100

cgctgtcggc gctgggcacg gtagcaggcg ccgccgtgct gctcaaggac 150

tatgtcaccg gtggggcttg ccccagcaag gccaccatcc ctgggaagac 200

ggtcatcgtg acgggcgccca acacaggcat cgggaagcag accgccttgg 250

aactggccag gagaggaggc aacatcatcc tggcctgccg agacatggag 300

aagtgtgagg cggcagcaaa ggacatccgc ggggagacct tcaatcacca 350

tgtaacgcc cggcacctgg acttggttc cctcaagtct atccgagagt 400

ttgcagcaaa gatcattgaa gaggaggagc gagtggacat tctaataac 450

aacgcgggtg tgatgcggtg ccccaactgg accaccgagg acgggttcga 500

gatgcagttt ggcgttaacc acctgggtca ctttctcttg acaaacttgc 550

tgctggacaa gctgaaagcc tcagccctt cgcggatcat caacctctcg 600

tccttgccc atgttgctgg gcacatagac ttgacgact tgaactggca 650

gacgaggaag tataacacca aagccgccta ctgccagagc aagctcgcca 700

tcgtcctctt caccaaggag ctgagccggc ggctgcaagg ctctgtgtg 750

actgtcaac ccctgcaccc cggcgtggcc aggacagagc tgggcagaca 800

cacgggcac catggtcca cttctccag caccacactc gggcccatct 850  
tctggctgct ggtaagagc cccgagctgg ccgcccagcc cagcacatac 900  
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gctcattt 1808

<210> 116  
<211> 331  
<212> PRT



<213> Homo sapiens

<400> 116

Met Ser Arg Tyr Leu Leu Pro Leu Ser Ala Leu Gly Thr Val Ala

1 5 10 15

Gly Ala Ala Val Leu Leu Lys Asp Tyr Val Thr Gly Gly Ala Cys

20 25 30

Pro Ser Lys Ala Thr Ile Pro Gly Lys Thr Val Ile Val Thr Gly

35 40 45

Ala Asn Thr Gly Ile Gly Lys Gln Thr Ala Leu Glu Leu Ala Arg

50 55 60

Arg Gly Gly Asn Ile Ile Leu Ala Cys Arg Asp Met Glu Lys Cys

65 70 75

Glu Ala Ala Ala Lys Asp Ile Arg Gly Glu Thr Leu Asn His His

80 85 90

Val Asn Ala Arg His Leu Asp Leu Ala Ser Leu Lys Ser Ile Arg

95 100 105

Glu Phe Ala Ala Lys Ile Ile Glu Glu Glu Glu Arg Val Asp Ile

110 115 120

Leu Ile Asn Asn Ala Gly Val Met Arg Cys Pro His Trp Thr Thr

125 130 135

Glu Asp Gly Phe Glu Met Gln Phe Gly Val Asn His Leu Gly His

140 145 150

Phe Leu Leu Thr Asn Leu Leu Leu Asp Lys Leu Lys Ala Ser Ala

155 160 165

Pro Ser Arg Ile Ile Asn Leu Ser Ser Leu Ala His Val Ala Gly

170 175 180

His Ile Asp Phe Asp Asp Leu Asn Trp Gln Thr Arg Lys Tyr Asn

185 190 195

Thr Lys Ala Ala Tyr Cys Gln Ser Lys Leu Ala Ile Val Leu Phe

200 205 210

Thr Lys Glu Leu Ser Arg Arg Leu Gln Gly Ser Gly Val Thr Val  
215 220 225

Asn Ala Leu His Pro Gly Val Ala Arg Thr Glu Leu Gly Arg His  
230 235 240

Thr Gly Ile His Gly Ser Thr Phe Ser Ser Thr Thr Leu Gly Pro  
245 250 255

Ile Phe Trp Leu Leu Val Lys Ser Pro Glu Leu Ala Ala Gln Pro  
260 265 270

Ser Thr Tyr Leu Ala Val Ala Glu Glu Leu Ala Asp Val Ser Gly  
275 280 285

Lys Tyr Phe Asp Gly Leu Lys Gln Lys Ala Pro Ala Pro Glu Ala  
290 295 300

Glu Asp Glu Glu Val Ala Arg Arg Leu Trp Ala Glu Ser Ala Arg  
305 310 315

Leu Val Gly Leu Glu Ala Pro Ser Val Arg Glu Gln Pro Leu Pro  
320 325 330

Arg

<210> 117

<211> 2249

<212> DNA

<213> Homo sapiens

<400> 117

gaagttcgcg agcgctggca tgtggtcctg gggcgcggtt ggcggcgctg 50

ctggcggtgc tggcgctcgg gacaggagac ccagaaaggg ctgcggctcg 100

gggcgacacg ttctggcgcg tgaccagcgt ggcgcgcgcc ctggcgcccg 150

agcgccggct gctggggctg ctgaggcggg acctgcgcgg ggaggaggcg 200

cggtgcggg acctgactag attctacgac aaggtacttt ctttgcata 250

ggattcaaca acccctgtgg ctaaccctct gcttgcattt acttcatca 300

aacgcctgca gtctgactgg aggaatgtgg tacatagtct ggaggccagt 350  
gagaacatcc gagctctgaa ggatggctat gagaaggtgg agcaagacct 400  
tccagccttt gaggaccttg agggagcagc aagggccctg atgcggctgc 450  
aggagtgta catgctcaat gtgaaaggcc tggcccgagg tgtctttcag 500  
agagtcactg gctctgccat cactgacctg tacagcccca aacggctctt 550  
ttctctcaca ggggatgact gcttccaagt tggcaagggt gcctatgaca 600  
tgggggatta ttaccatgcc attccatggc tggaggaggc tgcagtctc 650  
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cgtgtgccct cagcctctct cgggagtttc ttctctacag cccagataat 800  
aagaggatgg ccaggaatgt cttgaaatat gaaaggctct tggcagagag 850  
ccccaaccac gtggtagctg aggctgtcat ccagaggccc aatatacccc 900  
acctgcagac cagagacacc tacgaggggc tatgtcagac cctgggttcc 950  
cagcccactc tctaccagat ccctagcctc tactgttct atgagacaa 1000  
ttccaagcc tacctgtgc tccagcccat ccggaaggag gtcattccacc 1050  
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cagaaaatta gagaacttg agaaccatgg ctacagaggt cagtgggtggc 1150  
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<210> 118

<211> 544

<212> PRT

<213> Homo sapiens

<400> 118

Met Gly Pro Gly Ala Arg Leu Ala Ala Leu Leu Ala Val Leu Ala

1 5 10 15

Leu Gly Thr Gly Asp Pro Glu Arg Ala Ala Ala Arg Gly Asp Thr

20 25 30

Phe Ser Ala Leu Thr Ser Val Ala Arg Ala Leu Ala Pro Glu Arg

35	40	45
Arg Leu Leu Gly Leu Leu Arg Arg Tyr Leu Arg Gly Glu Glu Ala		
50	55	60
Arg Leu Arg Asp Leu Thr Arg Phe Tyr Asp Lys Val Leu Ser Leu		
65	70	75
His Glu Asp Ser Thr Thr Pro Val Ala Asn Pro Leu Leu Ala Phe		
80	85	90
Thr Leu Ile Lys Arg Leu Gln Ser Asp Trp Arg Asn Val Val His		
95	100	105
Ser Leu Glu Ala Ser Glu Asn Ile Arg Ala Leu Lys Asp Gly Tyr		
110	115	120
Glu Lys Val Glu Gln Asp Leu Pro Ala Phe Glu Asp Leu Glu Gly		
125	130	135
Ala Ala Arg Ala Leu Met Arg Leu Gln Asp Val Tyr Met Leu Asn		
140	145	150
Val Lys Gly Leu Ala Arg Gly Val Phe Gln Arg Val Thr Gly Ser		
155	160	165
Ala Ile Thr Asp Leu Tyr Ser Pro Lys Arg Leu Phe Ser Leu Thr		
170	175	180
Gly Asp Asp Cys Phe Gln Val Gly Lys Val Ala Tyr Asp Met Gly		
185	190	195
Asp Tyr Tyr His Ala Ile Pro Trp Leu Glu Glu Ala Val Ser Leu		
200	205	210
Phe Arg Gly Ser Tyr Gly Glu Trp Lys Thr Glu Asp Glu Ala Ser		
215	220	225
Leu Glu Asp Ala Leu Asp His Leu Ala Phe Ala Tyr Phe Arg Ala		
230	235	240
Gly Asn Val Ser Cys Ala Leu Ser Leu Ser Arg Glu Phe Leu Leu		
245	250	255
Tyr Ser Pro Asp Asn Lys Arg Met Ala Arg Asn Val Leu Lys Tyr		

260	265	270
Glu Arg Leu Leu Ala Glu Ser Pro Asn His Val Val Ala Glu Ala		
275	280	285
Val Ile Gln Arg Pro Asn Ile Pro His Leu Gln Thr Arg Asp Thr		
290	295	300
Tyr Glu Gly Leu Cys Gln Thr Leu Gly Ser Gln Pro Thr Leu Tyr		
305	310	315
Gln Ile Pro Ser Leu Tyr Cys Ser Tyr Glu Thr Asn Ser Asn Ala		
320	325	330
Tyr Leu Leu Leu Gln Pro Ile Arg Lys Glu Val Ile His Leu Glu		
335	340	345
Pro Tyr Ile Ala Leu Tyr His Asp Phe Val Ser Asp Ser Glu Ala		
350	355	360
Gln Lys Ile Arg Glu Leu Ala Glu Pro Trp Leu Gln Arg Ser Val		
365	370	375
Val Ala Ser Gly Glu Lys Gln Leu Gln Val Glu Tyr Arg Ile Ser		
380	385	390
Lys Ser Ala Trp Leu Lys Asp Thr Val Asp Pro Lys Leu Val Thr		
395	400	405
Leu Asn His Arg Ile Ala Ala Leu Thr Gly Leu Asp Val Arg Pro		
410	415	420
Pro Tyr Ala Glu Tyr Leu Gln Val Val Asn Tyr Gly Ile Gly Gly		
425	430	435
His Tyr Glu Pro His Phe Asp His Ala Thr Ser Pro Ser Ser Pro		
440	445	450
Leu Tyr Arg Met Lys Ser Gly Asn Arg Val Ala Thr Phe Met Ile		
455	460	465
Tyr Leu Ser Ser Val Glu Ala Gly Gly Ala Thr Ala Phe Ile Tyr		
470	475	480
Ala Asn Leu Ser Val Pro Val Val Arg Asn Ala Ala Leu Phe Trp		

485                      490                      495

Trp Asn Leu His Arg Ser Gly Glu Gly Asp Ser Asp Thr Leu His  
500                      505                      510

Ala Gly Cys Pro Val Leu Val Gly Asp Lys Trp Val Ala Asn Lys  
515                      520                      525

Trp Ile His Glu Tyr Gly Gln Glu Phe Arg Arg Pro Cys Ser Ser  
530                      535                      540

Ser Pro Glu Asp

<210> 119

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 119

cgggacagga gaccagaaa ggg 23

<210> 120

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 120

ggccaagtga tccaaggcat cttc 24

<210> 121

<211> 49

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 121

ctgcgggacc tgactagatt ctacgacaag gtactttctt tgcattgggg 49

<210> 122

<211> 1778

<212> DNA

<213> Homo sapiens

<400> 122

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tcccaccctt aggaagccac cagactccac ggtgtggggc caatcaggtg 100

gaatcggccc tggcaggtgg ggccacgagc gctggctgag ggaccgagcc 150

ggagagcccc ggagcccccg taaccgcgc ggggagcgcc caggatgccg 200

cgcggggact cggagcaggt gcgctactgc gcgcgcttct cctacctctg 250

gtcaagttt tcattatca tctattccac cgtgttctgg ctgattgggg 300

ccctggctct gtctgtgggc atctatgcag aggttgagcg gcagaaatat 350

aaaacccttg aaagtgcctt cctggctcca gccatcatcc tcatectct 400

gggcgtcgtc atgttcattg tctcttcat tgggtgtctg gcgtccctcc 450

gtgacaacct gtaccttc caagcattca tgtacatcct tgggatctgc 500

ctcatcatgg agctcattgg tggcgtggtg gccttgacct tccggaacca 550

gaccattgac ttctgaacg acaacattcg aagaggaatt gagaactact 600

atgatgatct ggactcaaa aacatcatgg actttgttca gaaaaagttc 650

aagtgtctgt gcggggagga ctaccgagat tggagcaaga atcagtacca 700

cgactgcagt gcccctggac ccctggcctg tggggtgccc tacacctgct 750

gcatcaggaa cacgacagaa gttgtcaaca ccatgtgtgg ctacaaaact 800

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caccaacgcc gtgatcatct ggttcatgga caactacacc atcatggcgt 900



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 gctgtgtgtg cctgtgtgta ggtccacagg cctctgcctc cccaggggagc 1250  
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 gtgcccacct ggggcctggg gaacaaggcc ctctttctc caggcctggg 1350  
 ctacagggga gggagagcct gaggtctgc tcagggccca ttcatctct 1400  
 ggcaagtgcct tggcgggtgt attcaaggca gttttgtagc acctgtaatt 1450  
 ggggagaggg agtgtgcccc tcggggcagg agggaagggc atctggggaa 1500  
 gggcaggagg gaagagctgt ccatgcagcc acgcccattg ccaggttggc 1550  
 ctctctcag cctcccagg gtcttgagcc ctcttgcaag ggcggctgct 1600  
 tccttgagcc tagtttttt ttacgtgatt tttgtaacat tcatttttt 1650  
 gtacagataa caggagtttc tgactaatca aagctggtat ttccccgcat 1700  
 gtcttattct tgccctccc ccaaccagt tgtaataca acaataaaaa 1750  
 catgtttgt tttgtttta aaaaaaa 1778

<210> 123

<211> 294

<212> PRT

<213> Homo sapiens

<400> 123

Met Pro Arg Gly Asp Ser Glu Gln Val Arg Tyr Cys Ala Arg Phe

1

5

10

15

Ser Tyr Leu Trp Leu Lys Phe Ser Leu Ile Ile Tyr Ser Thr Val	20	25	30
Phe Trp Leu Ile Gly Ala Leu Val Leu Ser Val Gly Ile Tyr Ala	35	40	45
Glu Val Glu Arg Gln Lys Tyr Lys Thr Leu Glu Ser Ala Phe Leu	50	55	60
Ala Pro Ala Ile Ile Leu Ile Leu Leu Gly Val Val Met Phe Met	65	70	75
Val Ser Phe Ile Gly Val Leu Ala Ser Leu Arg Asp Asn Leu Tyr	80	85	90
Leu Leu Gln Ala Phe Met Tyr Ile Leu Gly Ile Cys Leu Ile Met	95	100	105
Glu Leu Ile Gly Gly Val Val Ala Leu Thr Phe Arg Asn Gln Thr	110	115	120
Ile Asp Phe Leu Asn Asp Asn Ile Arg Arg Gly Ile Glu Asn Tyr	125	130	135
Tyr Asp Asp Leu Asp Phe Lys Asn Ile Met Asp Phe Val Gln Lys	140	145	150
Lys Phe Lys Cys Cys Gly Gly Glu Asp Tyr Arg Asp Trp Ser Lys	155	160	165
Asn Gln Tyr His Asp Cys Ser Ala Pro Gly Pro Leu Ala Cys Gly	170	175	180
Val Pro Tyr Thr Cys Cys Ile Arg Asn Thr Thr Glu Val Val Asn	185	190	195
Thr Met Cys Gly Tyr Lys Thr Ile Asp Lys Glu Arg Phe Ser Val	200	205	210
Gln Asp Val Ile Tyr Val Arg Gly Cys Thr Asn Ala Val Ile Ile	215	220	225
Trp Phe Met Asp Asn Tyr Thr Ile Met Ala Cys Ile Leu Leu Gly	230	235	240

Ile Leu Leu Pro Gln Phe Leu Gly Val Leu Leu Thr Leu Leu Tyr  
245 250 255

Ile Thr Arg Val Glu Asp Ile Ile Met Glu His Ser Val Thr Asp  
260 265 270

Gly Leu Leu Gly Pro Gly Ala Lys Pro Ser Val Glu Ala Ala Gly  
275 280 285

Thr Gly Cys Cys Leu Cys Tyr Pro Asn  
290

<210> 124

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 124

atcatctatt ccaccgtgtt ctggc 25

<210> 125

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 125

gacagagtgc tccatgatga tgtcc 25

<210> 126

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 126

cctgtctgtg ggcatctatg cagaggttga gcggcagaaa tataaaaccc 50

<210> 127  
<211> 1636  
<212> DNA  
<213> Homo sapiens

<400> 127  
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ctctgtggtt tgctggcagc caccttgatc caagccaccc tcagtccac 150  
tgcagttctc atctcggcc caaaagtcat caaagaaaag ctgacacagg 200  
agctgaagga ccacaacgcc accagcatcc tgcagcagct gccgtgctc 250  
agtgccatgc gggaaaagcc agccggaggc atccctgtgc tgggcagcct 300  
ggtgaacacc gtctgaagc acatcatctg gctgaaggc atcacagcta 350  
acatcctcca gctgcagggtg aagccctcgg ccaatgacca ggagctgcta 400  
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accagccatg ggagcctgcg catccaactg ctgtataage tctcttct 600  
ggtgaacgcc tttagtaagc aggtcatgaa cctcctagt ccatccctgc 650  
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ccattcagct ctacctgggg gccaaagtgt tggactcaca gggaaagggtg 850  
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caacatcccg ttcagctca tcgtgagta ggacgtggtg aaagctgcag 950  
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ctctctgaga gtgcccacg gctgaagtca agcatcgggc tgatcaatga 1050  
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 ctgatcgtgc tggaagtgtt tccctccagt gaagccctcc gccctttgtt 1200  
 caccctgggc atcgaagcca gctcggaagc tcagttttac accaaaggtg 1250  
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 atgaactctg ggattggctg gttccaacct gatgttctga aaaacatcat 1350  
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 gatctggggc cccagtgtca ttggtgaagg ccttgggatt cgaggcagct 1450  
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<210> 128

<211> 484

<212> PRT

<213> Homo sapiens

<400> 128

Met Ala Gly Pro Trp Thr Phe Thr Leu Leu Cys Gly Leu Leu Ala

1 5 10 15

Ala Thr Leu Ile Gln Ala Thr Leu Ser Pro Thr Ala Val Leu Ile

20 25 30

Leu Gly Pro Lys Val Ile Lys Glu Lys Leu Thr Gln Glu Leu Lys

35 40 45

Asp His Asn Ala Thr Ser Ile Leu Gln Gln Leu Pro Leu Leu Ser

50 55 60

Ala Met Arg Glu Lys Pro Ala Gly Gly Ile Pro Val Leu Gly Ser

65	70	75
Leu Val Asn Thr Val Leu Lys His Ile Ile Trp Leu Lys Val Ile		
80	85	90
Thr Ala Asn Ile Leu Gln Leu Gln Val Lys Pro Ser Ala Asn Asp		
95	100	105
Gln Glu Leu Leu Val Lys Ile Pro Leu Asp Met Val Ala Gly Phe		
110	115	120
Asn Thr Pro Leu Val Lys Thr Ile Val Glu Phe His Met Thr Thr		
125	130	135
Glu Ala Gln Ala Thr Ile Arg Met Asp Thr Ser Ala Ser Gly Pro		
140	145	150
Thr Arg Leu Val Leu Ser Asp Cys Ala Thr Ser His Gly Ser Leu		
155	160	165
Arg Ile Gln Leu Leu Tyr Lys Leu Ser Phe Leu Val Asn Ala Leu		
170	175	180
Ala Lys Gln Val Met Asn Leu Leu Val Pro Ser Leu Pro Asn Leu		
185	190	195
Val Lys Asn Gln Leu Cys Pro Val Ile Glu Ala Ser Phe Asn Gly		
200	205	210
Met Tyr Ala Asp Leu Leu Gln Leu Val Lys Val Pro Ile Ser Leu		
215	220	225
Ser Ile Asp Arg Leu Glu Phe Asp Leu Leu Tyr Pro Ala Ile Lys		
230	235	240
Gly Asp Thr Ile Gln Leu Tyr Leu Gly Ala Lys Leu Leu Asp Ser		
245	250	255
Gln Gly Lys Val Thr Lys Trp Phe Asn Asn Ser Ala Ala Ser Leu		
260	265	270
Thr Met Pro Thr Leu Asp Asn Ile Pro Phe Ser Leu Ile Val Ser		
275	280	285
Gln Asp Val Val Lys Ala Ala Val Ala Ala Val Leu Ser Pro Glu		

290	295	300
Glu Phe Met Val Leu Leu Asp Ser Val Leu Pro Glu Ser Ala His		
305	310	315
Arg Leu Lys Ser Ser Ile Gly Leu Ile Asn Glu Lys Ala Ala Asp		
320	325	330
Lys Leu Gly Ser Thr Gln Ile Val Lys Ile Leu Thr Gln Asp Thr		
335	340	345
Pro Glu Phe Phe Ile Asp Gln Gly His Ala Lys Val Ala Gln Leu		
350	355	360
Ile Val Leu Glu Val Phe Pro Ser Ser Glu Ala Leu Arg Pro Leu		
365	370	375
Phe Thr Leu Gly Ile Glu Ala Ser Ser Glu Ala Gln Phe Tyr Thr		
380	385	390
Lys Gly Asp Gln Leu Ile Leu Asn Leu Asn Asn Ile Ser Ser Asp		
395	400	405
Arg Ile Gln Leu Met Asn Ser Gly Ile Gly Trp Phe Gln Pro Asp		
410	415	420
Val Leu Lys Asn Ile Ile Thr Glu Ile Ile His Ser Ile Leu Leu		
425	430	435
Pro Asn Gln Asn Gly Lys Leu Arg Ser Gly Val Pro Val Ser Leu		
440	445	450
Val Lys Ala Leu Gly Phe Glu Ala Ala Glu Ser Ser Leu Thr Lys		
455	460	465
Asp Ala Leu Val Leu Thr Pro Ala Ser Leu Trp Lys Pro Ser Ser		
470	475	480
Pro Val Ser Gln		

<210> 129

<211> 2213

<212> DNA

<213> Homo sapiens

<400> 129

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aaagaaggag atggtgttat ctgaaaaggt tagtcagctg atggaatgga 150  
ctaacaaaag acctgtaata agaataatg gagacaagtt ccgtcgcctt 200  
gtgaaagccc caccgagaaa ttactccgtt atcgtcatgt tcaactgtct 250  
ccaactgcat agacagtgtg tcgtttgcaa gcaagctgat gaagaattcc 300  
agatcctggc aaactcctgg cgatactcca gtgcattcac caacaggata 350  
tttttgcca tgggtggattt tgaatgaaggc tctgatgtat ttcagatgct 400  
aaacatgaat tcagctccaa ctttcatcaa ctttctgca aaagggaaac 450  
ccaaacgggg tgatacatat gagttacagg tgcgggggtt ttcagctgag 500  
cagattgccc ggtggatcgc cgacagaact gatgtcaata ttagagtgat 550  
tagaccccca aattatgctg gtccccttat gttgggattg cttttggctg 600  
ttattggtgg acttgtgtat cttcgaagaa gtaatatgga atttctctt 650  
aataaaactg gatgggcttt tgcagctttg tgtttgtgc ttgctatgac 700  
atctgggtcaa atgtggaacc atataagagg accaccatat gcccataaga 750  
atccccacac gggacatgtg aattatatcc atggaagcag tcaagcccag 800  
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aggaatggtg cttttatgtg aagctgctac ctctgacatg gatattggaa 900  
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ctttctgatg agttaaaaag gtcccagaga tatatagaca ctggagtact 1050  
ggaaattgaa aaacgaaaat cgtgtgtgtt tgaaaagaag aatgcaactt 1100



gtatatttg tattacctt tttttcaag tgatttaaat agttaatcat 1150  
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ctgaggatt tgaaaataat tatcctctta accttctctt cccagtgaac 1250  
tttatggaac atttaattta gtacaattaa gtatattata aaaattgtaa 1300  
aactactact ttgttttagt tagaacaag ctcaaaacta cttagtta 1350  
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gcttgagtat ggtgttaact acctgtatt tagaaagatt tcagattcat 1750  
tccatctct tagttttct ttaagtgac ccatctgtga taaaaatata 1800  
gcttagtgct aaaatcagt taacttatac atggcctaaa atgtttctac 1850  
aaattagagt ttgtactta ttccattgt acctaaaga aaaataggct 1900  
cagtagaaa aggactcct ggccaggcgc agtgacttac gcctgtaac 1950  
tcagacttt gggaggccaa ggcaggcaga tcacagggtc aggagttcga 2000  
gaccatctg gccaatgg tgaaacccg tctctactaa aaatataaaa 2050  
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tgaggcacga gaatcactg aactcaggag atggagggtt cagtgagccg 2150  
agatcacgcc actgcactcc agcctggcaa cagagcgaga ctccatctca 2200  
aaaaaaaaa aaa 2213

<210> 130

<211> 335

<212> PRT

<213> Homo sapiens

<400> 130

Met Ala Ala Arg Trp Arg Phe Trp Cys Val Ser Val Thr Met Val  
1 5 10 15

Val Ala Leu Leu Ile Val Cys Asp Val Pro Ser Ala Ser Ala Gln  
20 25 30

Arg Lys Lys Glu Met Val Leu Ser Glu Lys Val Ser Gln Leu Met  
35 40 45

Glu Trp Thr Asn Lys Arg Pro Val Ile Arg Met Asn Gly Asp Lys  
50 55 60

Phe Arg Arg Leu Val Lys Ala Pro Pro Arg Asn Tyr Ser Val Ile  
65 70 75

Val Met Phe Thr Ala Leu Gln Leu His Arg Gln Cys Val Val Cys  
80 85 90

Lys Gln Ala Asp Glu Glu Phe Gln Ile Leu Ala Asn Ser Trp Arg  
95 100 105

Tyr Ser Ser Ala Phe Thr Asn Arg Ile Phe Phe Ala Met Val Asp  
110 115 120

Phe Asp Glu Gly Ser Asp Val Phe Gln Met Leu Asn Met Asn Ser  
125 130 135

Ala Pro Thr Phe Ile Asn Phe Pro Ala Lys Gly Lys Pro Lys Arg  
140 145 150

Gly Asp Thr Tyr Glu Leu Gln Val Arg Gly Phe Ser Ala Glu Gln  
155 160 165

Ile Ala Arg Trp Ile Ala Asp Arg Thr Asp Val Asn Ile Arg Val  
170 175 180

Ile Arg Pro Pro Asn Tyr Ala Gly Pro Leu Met Leu Gly Leu Leu  
185 190 195

Leu Ala Val Ile Gly Gly Leu Val Tyr Leu Arg Arg Ser Asn Met  
 200 205 210  
 Glu Phe Leu Phe Asn Lys Thr Gly Trp Ala Phe Ala Ala Leu Cys  
 215 220 225  
 Phe Val Leu Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg  
 230 235 240  
 Gly Pro Pro Tyr Ala His Lys Asn Pro His Thr Gly His Val Asn  
 245 250 255  
 Tyr Ile His Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Thr His  
 260 265 270  
 Ile Val Leu Leu Phe Asn Gly Gly Val Thr Leu Gly Met Val Leu  
 275 280 285  
 Leu Cys Glu Ala Ala Thr Ser Asp Met Asp Ile Gly Lys Arg Lys  
 290 295 300  
 Ile Met Cys Val Ala Gly Ile Gly Leu Val Val Leu Phe Phe Ser  
 305 310 315  
 Trp Met Leu Ser Ile Phe Arg Ser Lys Tyr His Gly Tyr Pro Tyr  
 320 325 330  
 Ser Phe Leu Met Ser  
 335

<210> 131

<211> 2476

<212> DNA

<213> Homo sapiens

<400> 131

aagcaaccaa actgcaagct ttgggagttg ttcgctgtcc ctgccctgct 50

ctgctaggga gagaacgcca gagggaggcg gctggcccgg cggcaggctc 100

tcagaaccgc taccggcgat gctactgctg tgggtgtcgg tggcgcagc 150

cttggcgctg gcggtactgg cccccggagc aggggagcag aggcggagag 200

cagccaaagc gcccaatgtg gtgctggtcg tgagcgactc cttcgatgga 250

aggttaacat ttcatccagg aagtcaggta gtgaaacttc cttttatcaa 300  
ctttatgaag acacgtggga cttcctttct gaatgcctac acaaactctc 350  
caatttggtg cccatcacgc gcagcaatgt ggagtggcct cttcactcac 400  
ttaacagaat cttggaataa tttaagggt ctatgccaa attatacaac 450  
atggatggat gtcattggaga ggcatggcta ccgaacacag aaatttggga 500  
aactggacta tacttcagga catcactcca ttagtaatcg tgtggaagcg 550  
tggacaagag atgttgcttt cttactcaga caagaaggca ggcccatggt 600  
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tttattggct tgaaaaagtg tctcatgatg ccatcaaaat ccaaagtg 850  
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ctcagacat ggagagctgg ccatggaaca tcgacagttt tataaaatga 1100  
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gatactctt gttgccgta tcacagaaa catttaagaa tgaacataaa 1300  
gtcaaaaacc tgcattccac ctggattctg agtgaattcc atggatgtaa 1350  
tgtgaatgcc tccacctaca tgcttcgaac taacctggtg aaatatatag 1400

cctattcgga tggatcatca atattgcctc aactctttga tctttctcgc 1450  
gatccagatg aattaacaaa tgttgctgta aaatttcag aaattactta 1500  
ttctttggat cagaagcttc attccattat aaactaccct aaagtttctg 1550  
cttctgtcca ccagtataat aaagagcagt ttatcaagt gaaacaaagt 1600  
ataggacaga attattcaaa cggtatagca aatcttaggt ggcaccaaga 1650  
ctggcagaag gaaccaagga agtatgaaaa tgcaattgat cagtggctta 1700  
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atgaaacagt ttaataatt accaagttt ggccgggcac agtggctcac 1850  
acctgtaatc ccaggacttt gggaggctga ggaaagcaga tcacaaggtc 1900  
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agtgcgctga gattgcgcca ctgtactcca gcctggcaac agagtgcgac 2100  
tgtgtcgcaa aaaaataaaa ataaaataat aataattacc aatttttcat 2150  
tattttgtaa gaatgtagt tattttaaga taaaatgcca atgattataa 2200  
aatcacatat ttcaaaaat ggttattatt taggcctttg tacaatttct 2250  
aacaatttag tggaagtatc aaaaggattg aagcaatac tgtaacagtt 2300  
atgttccttt aaataataga gaatataaaa tattgtaata atatgtatca 2350  
taaaatagti gtatgtgagc atttgatggt gaaaaaaaaa aaaaaaaaaa 2400  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2450  
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<211> 536

<212> PRT

<213> Homo sapiens

<400> 132

Met Leu Leu Leu Trp Val Ser Val Val Ala Ala Leu Ala Leu Ala  
1 5 10 15

Val Leu Ala Pro Gly Ala Gly Glu Gln Arg Arg Arg Ala Ala Lys  
20 25 30

Ala Pro Asn Val Val Leu Val Val Ser Asp Ser Phe Asp Gly Arg  
35 40 45

Leu Thr Phe His Pro Gly Ser Gln Val Val Lys Leu Pro Phe Ile  
50 55 60

Asn Phe Met Lys Thr Arg Gly Thr Ser Phe Leu Asn Ala Tyr Thr  
65 70 75

Asn Ser Pro Ile Cys Cys Pro Ser Arg Ala Ala Met Trp Ser Gly  
80 85 90

Leu Phe Thr His Leu Thr Glu Ser Trp Asn Asn Phe Lys Gly Leu  
95 100 105

Asp Pro Asn Tyr Thr Thr Trp Met Asp Val Met Glu Arg His Gly  
110 115 120

Tyr Arg Thr Gln Lys Phe Gly Lys Leu Asp Tyr Thr Ser Gly His  
125 130 135

His Ser Ile Ser Asn Arg Val Glu Ala Trp Thr Arg Asp Val Ala  
140 145 150

Phe Leu Leu Arg Gln Glu Gly Arg Pro Met Val Asn Leu Ile Arg  
155 160 165

Asn Arg Thr Lys Val Arg Val Met Glu Arg Asp Trp Gln Asn Thr  
170 175 180

Asp Lys Ala Val Asn Trp Leu Arg Lys Glu Ala Ile Asn Tyr Thr  
185 190 195

Glu Pro Phe Val Ile Tyr Leu Gly Leu Asn Leu Pro His Pro Tyr

200	205	210
Pro Ser Pro Ser Ser Gly Glu Asn Phe Gly Ser Ser Thr Phe His		
215	220	225
Thr Ser Leu Tyr Trp Leu Glu Lys Val Ser His Asp Ala Ile Lys		
230	235	240
Ile Pro Lys Trp Ser Pro Leu Ser Glu Met His Pro Val Asp Tyr		
245	250	255
Tyr Ser Ser Tyr Thr Lys Asn Cys Thr Gly Arg Phe Thr Lys Lys		
260	265	270
Glu Ile Lys Asn Ile Arg Ala Phe Tyr Tyr Ala Met Cys Ala Glu		
275	280	285
Thr Asp Ala Met Leu Gly Glu Ile Ile Leu Ala Leu His Gln Leu		
290	295	300
Asp Leu Leu Gln Lys Thr Ile Val Ile Tyr Ser Ser Asp His Gly		
305	310	315
Glu Leu Ala Met Glu His Arg Gln Phe Tyr Lys Met Ser Met Tyr		
320	325	330
Glu Ala Ser Ala His Val Pro Leu Leu Met Met Gly Pro Gly Ile		
335	340	345
Lys Ala Gly Leu Gln Val Ser Asn Val Val Ser Leu Val Asp Ile		
350	355	360
Tyr Pro Thr Met Leu Asp Ile Ala Gly Ile Pro Leu Pro Gln Asn		
365	370	375
Leu Ser Gly Tyr Ser Leu Leu Pro Leu Ser Ser Glu Thr Phe Lys		
380	385	390
Asn Glu His Lys Val Lys Asn Leu His Pro Pro Trp Ile Leu Ser		
395	400	405
Glu Phe His Gly Cys Asn Val Asn Ala Ser Thr Tyr Met Leu Arg		
410	415	420
Thr Asn His Trp Lys Tyr Ile Ala Tyr Ser Asp Gly Ala Ser Ile		

425	430	435
Leu Pro Gln Leu Phe Asp Leu Ser Ser Asp Pro Asp Glu Leu Thr		
440	445	450
Asn Val Ala Val Lys Phe Pro Glu Ile Thr Tyr Ser Leu Asp Gln		
455	460	465
Lys Leu His Ser Ile Ile Asn Tyr Pro Lys Val Ser Ala Ser Val		
470	475	480
His Gln Tyr Asn Lys Glu Gln Phe Ile Lys Trp Lys Gln Ser Ile		
485	490	495
Gly Gln Asn Tyr Ser Asn Val Ile Ala Asn Leu Arg Trp His Gln		
500	505	510
Asp Trp Gln Lys Glu Pro Arg Lys Tyr Glu Asn Ala Ile Asp Gln		
515	520	525
Trp Leu Lys Thr His Met Asn Pro Arg Ala Val		
530	535	

<210> 133

<211> 1475

<212> DNA

<213> Homo sapiens

<400> 133

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tcaaggagca agagcttcag cctgaagaca agggagcagt ccctgaagac 100

gcttctactg agaggtctgc catggcctct ctggcctcc aactgtggg 150

ctacatccta ggccttctgg ggcttttggg cacactggtt gccatgctgc 200

tccccagctg gaaaacaagt tcttatgtcg gtgccagcat tgtgacagca 250

gttggcttct ccaagggcct ctggatggaa tgtgccacac acagcacagg 300

catcaccag tgtgacatct atagaccct tctgggcctg cccgtgaca 350

tccaggctgc ccaggccatg atggtgacat ccagtgaat ctctccctg 400



gcctgcatta tctctgtggt gggcatgaga tgcacagtct tctgccagga 450  
atcccagacc aaagacagag tggcggtagc aggtggagtc ttttcatcc 500  
ttggaggcct cctgggattc attcctgttg cctggaatct tcatgggatc 550  
ctacgggact tctactacc actggtgcct gacagcatga aatttgagat 600  
tggagaggct ctttacttg gcattatttc ttcctgttc tcctgatag 650  
ctggaatcat cctctgcttt tctgctcat cccagagaaa tcgctccaac 700  
tactacgatg cctaccaagc ccaacctctt gccacaagga gctctccaag 750  
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cagggtatgt gtgaagaacc aggggccaga gctggggggt ggctgggtct 850  
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actccacagt gtccagacta attgtgcat gaactgaaat aaaaccatcc 1400  
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<211> 230

<212> PRT

<213> Homo sapiens

<400> 134

Met Ala Ser Leu Gly Leu Gln Leu Val Gly Tyr Ile Leu Gly Leu

1 5 10 15

Leu Gly Leu Leu Gly Thr Leu Val Ala Met Leu Leu Pro Ser Trp

20 25 30

Lys Thr Ser Ser Tyr Val Gly Ala Ser Ile Val Thr Ala Val Gly

35 40 45

Phe Ser Lys Gly Leu Trp Met Glu Cys Ala Thr His Ser Thr Gly

50 55 60

Ile Thr Gln Cys Asp Ile Tyr Ser Thr Leu Leu Gly Leu Pro Ala

65 70 75

Asp Ile Gln Ala Ala Gln Ala Met Met Val Thr Ser Ser Ala Ile

80 85 90

Ser Ser Leu Ala Cys Ile Ile Ser Val Val Gly Met Arg Cys Thr

95 100 105

Val Phe Cys Gln Glu Ser Arg Ala Lys Asp Arg Val Ala Val Ala

110 115 120

Gly Gly Val Phe Phe Ile Leu Gly Gly Leu Leu Gly Phe Ile Pro

125 130 135

Val Ala Trp Asn Leu His Gly Ile Leu Arg Asp Phe Tyr Ser Pro

140 145 150

Leu Val Pro Asp Ser Met Lys Phe Glu Ile Gly Glu Ala Leu Tyr

155 160 165

Leu Gly Ile Ile Ser Ser Leu Phe Ser Leu Ile Ala Gly Ile Ile

170 175 180

Leu Cys Phe Ser Cys Ser Ser Gln Arg Asn Arg Ser Asn Tyr Tyr

185 190 195

Asp Ala Tyr Gln Ala Gln Pro Leu Ala Thr Arg Ser Ser Pro Arg

200	205	210
Pro Gly Gln Pro Pro Lys Val Lys Ser Glu Phe Asn Ser Tyr Ser		
215	220	225
Leu Thr Gly Tyr Val		
230		

<210> 135  
 <211> 610  
 <212> DNA  
 <213> Homo sapiens

<400> 135  
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 aagtcacgc tcccgtggc tcagaacct ggctgtgcca gccggcaccc 150  
 aggtgtggag acaagatcta caacccttg gagcagtgt gttacaatga 200  
 cgccatcgtg tccctgagcg agaccgcca atgtggccc ccctgcacct 250  
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 gattttgttg tgaagctgaa gggtcagggt gtgaattccc agtgccactc 350  
 atctccatc tccagtaaat gtgaaagcag aagacgtttt ccctgagaag 400  
 acatagaaag aaaatcaact ttactaagg catctcagaa acataggcta 450  
 aggtaatatg tgtaccagta gagaagcctg aggaatttac aaaatgatgc 500  
 agctccaagc cattgtatgg cccatgtggg agactgatgg gacatggaga 550  
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 acctgtaaaa 610

<210> 136  
 <211> 119  
 <212> PRT  
 <213> Homo sapiens

<400> 136

Met Val Pro Arg Ile Phe Ala Pro Ala Tyr Val Ser Val Cys Leu  
1 5 10 15

Leu Leu Leu Cys Pro Arg Glu Val Ile Ala Pro Ala Gly Ser Glu  
20 25 30

Pro Trp Leu Cys Gln Pro Ala Pro Arg Cys Gly Asp Lys Ile Tyr  
35 40 45

Asn Pro Leu Glu Gln Cys Cys Tyr Asn Asp Ala Ile Val Ser Leu  
50 55 60

Ser Glu Thr Arg Gln Cys Gly Pro Pro Cys Thr Phe Trp Pro Cys  
65 70 75

Phe Glu Leu Cys Cys Leu Asp Ser Phe Gly Leu Thr Asn Asp Phe  
80 85 90

Val Val Lys Leu Lys Val Gln Gly Val Asn Ser Gln Cys His Ser  
95 100 105

Ser Pro Ile Ser Ser Lys Cys Glu Ser Arg Arg Arg Phe Pro  
110 115

<210> 137

<211> 771

<212> DNA

<213> Homo sapiens

<400> 137

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gtcgtgccct tggccaggac ccagacgtgt ggaaactgca cttcagagt 250

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 ggactctgaa cctcctgat gaccctatg gccaacatca acccggcacc 650  
 accccaaggc tggctgggga acccttcacc cttctgtgag attttccatc 700  
 atctcaagtt cttctctatc caggagcaaa gcacaggatc ataataaatt 750  
 tatgtacttt ataaatgaaa a 771

<210> 138

<211> 110

<212> PRT

<213> Homo sapiens

<400> 138

Met Ala Pro Arg Gly Cys Ile Val Ala Val Phe Ala Ile Phe Cys

1 5 10 15

Ile Ser Arg Leu Leu Cys Ser His Gly Ala Pro Val Ala Pro Met

20 25 30

Thr Pro Tyr Leu Met Leu Cys Gln Pro His Lys Arg Cys Gly Asp

35 40 45

Lys Phe Tyr Asp Pro Leu Gln His Cys Cys Tyr Asp Asp Ala Val

50 55 60

Val Pro Leu Ala Arg Thr Gln Thr Cys Gly Asn Cys Thr Phe Arg

65 70 75

Val Cys Phe Glu Gln Cys Cys Pro Trp Thr Phe Met Val Lys Leu

80 85 90

Ile Asn Gln Asn Cys Asp Ser Ala Arg Thr Ser Asp Asp Arg Leu

95 100 105

Cys Arg Ser Val Ser  
110

<210> 139

<211> 2044

<212> DNA

<213> Homo sapiens

<400> 139

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ctccccgga ccagaagtc ctctgcgct ccgacggcga catgggcgtc 150  
cccacggccc tggaggccgg cagctggcgc tggggatccc tgctcttcgc 200  
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<210> 140

<211> 311

<212> PRT

<213> Homo sapiens

<400> 140

Met Gly Val Pro Thr Ala Leu Glu Ala Gly Ser Trp Arg Trp Gly  
1 5 10 15

Ser Leu Leu Phe Ala Leu Phe Leu Ala Ala Ser Leu Gly Pro Val  
20 25 30

Ala Ala Phe Lys Val Ala Thr Pro Tyr Ser Leu Tyr Val Cys Pro  
35 40 45

Glu Gly Gln Asn Val Thr Leu Thr Cys Arg Leu Leu Gly Pro Val  
50 55 60

Asp Lys Gly His Asp Val Thr Phe Tyr Lys Thr Trp Tyr Arg Ser  
65 70 75

Ser Arg Gly Glu Val Gln Thr Cys Ser Glu Arg Arg Pro Ile Arg  
80 85 90

Asn Leu Thr Phe Gln Asp Leu His Leu His His Gly Gly His Gln  
95 100 105

Ala Ala Asn Thr Ser His Asp Leu Ala Gln Arg His Gly Leu Glu  
110 115 120

Ser Ala Ser Asp His His Gly Asn Phe Ser Ile Thr Met Arg Asn  
125 130 135

Leu Thr Leu Leu Asp Ser Gly Leu Tyr Cys Cys Leu Val Val Glu  
140 145 150

Ile Arg His His His Ser Glu His Arg Val His Gly Ala Met Glu  
155 160 165

Leu Gln Val Gln Thr Gly Lys Asp Ala Pro Ser Asn Cys Val Val  
170 175 180

Tyr Pro Ser Ser Ser Gln Asp Ser Glu Asn Ile Thr Ala Ala Ala  
185 190 195



Leu Ala Thr Gly Ala Cys Ile Val Gly Ile Leu Cys Leu Pro Leu  
200 205 210

Ile Leu Leu Leu Val Tyr Lys Gln Arg Gln Ala Ala Ser Asn Arg  
215 220 225

Arg Ala Gln Glu Leu Val Arg Met Asp Ser Asn Ile Gln Gly Ile  
230 235 240

Glu Asn Pro Gly Phe Glu Ala Ser Pro Pro Ala Gln Gly Ile Pro  
245 250 255

Glu Ala Lys Val Arg His Pro Leu Ser Tyr Val Ala Gln Arg Gln  
260 265 270

Pro Ser Glu Ser Gly Arg His Leu Leu Ser Glu Pro Ser Thr Pro  
275 280 285

Leu Ser Pro Pro Gly Pro Gly Asp Val Phe Phe Pro Ser Leu Asp  
290 295 300

Pro Val Pro Asp Ser Pro Asn Phe Glu Val Ile  
305 310

<210> 141

<211> 1732

<212> DNA

<213> Homo sapiens

<400> 141

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ccttctccga ccccgtcta gcagcagacc tcctgggggc tgtgggtga 200

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ccgctcccg accagcggcc tgacctggg gaaaggatgg ttcccagagt 300

gagggtctc tctccttg tggactcgc gctgctctgg ttccccctgg 350

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agatactccc ccggcgagag ctggcacccc tacttgagc cacaaggcct 450  
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gaaggtcact ggaacgtctt cctagcccag accctggagc tgaaggtcac 1600

ggccagtcca gacaaagtga ccaagacata acaaagacct aacagttgca 1650

gatatgagct gtataattgt tgttattata tattaataaa taagaagttg 1700

cattaccctc aaaaaaaaaa aaaaaaaaaa aa 1732

<210> 142

<211> 451

<212> PRT

<213> Homo sapiens

<400> 142

Met Val Pro Glu Val Arg Val Leu Ser Ser Leu Leu Gly Leu Ala

1 5 10 15

Leu Leu Trp Phe Pro Leu Asp Ser His Ala Arg Ala Arg Pro Asp

20 25 30

Met Phe Cys Leu Phe His Gly Lys Arg Tyr Ser Pro Gly Glu Ser

35 40 45

Trp His Pro Tyr Leu Glu Pro Gln Gly Leu Met Tyr Cys Leu Arg

50 55 60

Cys Thr Cys Ser Glu Gly Ala His Val Ser Cys Tyr Arg Leu His

65 70 75

Cys Pro Pro Val His Cys Pro Gln Pro Val Thr Glu Pro Gln Gln

80 85 90

Cys Cys Pro Lys Cys Val Glu Pro His Thr Pro Ser Gly Leu Arg

95 100 105

Ala Pro Pro Lys Ser Cys Gln His Asn Gly Thr Met Tyr Gln His

110 115 120

Gly Glu Ile Phe Ser Ala His Glu Leu Phe Pro Ser Arg Leu Pro

125 130 135

Asn Gln Cys Val Leu Cys Ser Cys Thr Glu Gly Gln Ile Tyr Cys

140 145 150

Gly Leu Thr Thr Cys Pro Glu Pro Gly Cys Pro Ala Pro Leu Pro

155	160	165
Leu Pro Asp Ser Cys Cys Gln Ala Cys Lys Asp Glu Ala Ser Glu		
170	175	180
Gln Ser Asp Glu Glu Asp Ser Val Gln Ser Leu His Gly Val Arg		
185	190	195
His Pro Gln Asp Pro Cys Ser Ser Asp Ala Gly Arg Lys Arg Gly		
200	205	210
Pro Gly Thr Pro Ala Pro Thr Gly Leu Ser Ala Pro Leu Ser Phe		
215	220	225
Ile Pro Arg His Phe Arg Pro Lys Gly Ala Gly Ser Thr Thr Val		
230	235	240
Lys Ile Val Leu Lys Glu Lys His Lys Lys Ala Cys Val His Gly		
245	250	255
Gly Lys Thr Tyr Ser His Gly Glu Val Trp His Pro Ala Phe Arg		
260	265	270
Ala Phe Gly Pro Leu Pro Cys Ile Leu Cys Thr Cys Glu Asp Gly		
275	280	285
Arg Gln Asp Cys Gln Arg Val Thr Cys Pro Thr Glu Tyr Pro Cys		
290	295	300
Arg His Pro Glu Lys Val Ala Gly Lys Cys Cys Lys Ile Cys Pro		
305	310	315
Glu Asp Lys Ala Asp Pro Gly His Ser Glu Ile Ser Ser Thr Arg		
320	325	330
Cys Pro Lys Ala Pro Gly Arg Val Leu Val His Thr Ser Val Ser		
335	340	345
Pro Ser Pro Asp Asn Leu Arg Arg Phe Ala Leu Glu His Glu Ala		
350	355	360
Ser Asp Leu Val Glu Ile Tyr Leu Trp Lys Leu Val Lys Asp Glu		
365	370	375
Glu Thr Glu Ala Gln Arg Gly Glu Val Pro Gly Pro Arg Pro His		

380	385	390
Ser Gln Asn Leu Pro Leu Asp Ser Asp Gln Glu Ser Gln Glu Ala		
395	400	405
Arg Leu Pro Glu Arg Gly Thr Ala Leu Pro Thr Ala Arg Trp Pro		
410	415	420
Pro Arg Arg Ser Leu Glu Arg Leu Pro Ser Pro Asp Pro Gly Ala		
425	430	435
Glu Gly His Gly Gln Ser Arg Gln Ser Asp Gln Asp Ile Thr Lys		
440	445	450

Thr

<210> 143

<211> 693

<212> DNA

<213> Homo sapiens

<400> 143

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cttgcggaaa atgctgatct cagtcgcaat gctgggcgca ggggctggcg 150

tgggctacgc gctcctcgtt atcgtgacct cgaggagcgc gcggaagcag 200

gaaatgctaa aggagatgcc actgcaggac ccaaggagca gggaggaggc 250

ggccaggacc cagcagctat tgctggccac tctgcaggag gcagcgacca 300

cgcaggagaa cgtggcctgg aggaagaact ggatggttgg cggcgaaggc 350

ggcgccagcg ggaggtcacc gtgagaccgg acttgcttcc gtgggcgccc 400

gaccttggtt tgggcgcagg aatccgaggc agcctttctc cttcgtgggc 450

ccagcggaga gtccggaccg agataccatg ccaggactct ccggggctct 500

gtgagctgcc gtcgggtgag cacgtttccc ccaaaccctg gactgactgc 550

ttaaaggtcc gcaaggcggg ccagggccga gacgcgagtc ggatgtggtg 600

aactgaaaga accaataaaa tcattgtcct ccaaaaaaaaa aaaaaaaaaa 650

aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 693

<210> 144

<211> 93

<212> PRT

<213> Homo sapiens

<400> 144

Met Asp Ser Leu Arg Lys Met Leu Ile Ser Val Ala Met Leu Gly

1 5 10 15

Ala Gly Ala Gly Val Gly Tyr Ala Leu Leu Val Ile Val Thr Pro

20 25 30

Gly Glu Arg Arg Lys Gln Glu Met Leu Lys Glu Met Pro Leu Gln

35 40 45

Asp Pro Arg Ser Arg Glu Glu Ala Ala Arg Thr Gln Gln Leu Leu

50 55 60

Leu Ala Thr Leu Gln Glu Ala Ala Thr Thr Gln Glu Asn Val Ala

65 70 75

Trp Arg Lys Asn Trp Met Val Gly Gly Glu Gly Gly Ala Ser Gly

80 85 90

Arg Ser Pro

<210> 145

<211> 1883

<212> DNA

<213> Homo sapiens

<400> 145

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caggctgcca tggggcccag caccctctc ctcatttgt tcctttgtc 150

atggtcggga cccctccaag gacagcagca ccaccttggt gagtacatgg 200  
aacgccgact agctgcttta gaggaacggc tggcccagtg ccaggaccag 250  
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actgctggag gtggcagaga aggagcggga ggcactcaga actgaggccg 350  
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 aacaggactt tctccacatt gttttgtatt gcaacatttt gcattaaaag 1800  
 gaaaatccac aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1850  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 1883

<210> 146

<211> 406

<212> PRT

<213> Homo sapiens

<400> 146

Met Gly Pro Ser Thr Pro Leu Leu Ile Leu Phe Leu Leu Ser Trp

1 5 10 15

Ser Gly Pro Leu Gln Gly Gln Gln His His Leu Val Glu Tyr Met

20 25 30

Glu Arg Arg Leu Ala Ala Leu Glu Glu Arg Leu Ala Gln Cys Gln

35 40 45

Asp Gln Ser Ser Arg His Ala Ala Glu Leu Arg Asp Phe Lys Asn

50 55 60

Lys Met Leu Pro Leu Leu Glu Val Ala Glu Lys Glu Arg Glu Ala

65 70 75



Leu Arg Thr Glu Ala Asp Thr Ile Ser Gly Arg Val Asp Arg Leu  
80 85 90

Glu Arg Glu Val Asp Tyr Leu Glu Thr Gln Asn Pro Ala Leu Pro  
95 100 105

Cys Val Glu Phe Asp Glu Lys Val Thr Gly Gly Pro Gly Thr Lys  
110 115 120

Gly Lys Gly Arg Arg Asn Glu Lys Tyr Asp Met Val Thr Asp Cys  
125 130 135

Gly Tyr Thr Ile Ser Gln Val Arg Ser Met Lys Ile Leu Lys Arg  
140 145 150

Phe Gly Gly Pro Ala Gly Leu Trp Thr Lys Asp Pro Leu Gly Gln  
155 160 165

Thr Glu Lys Ile Tyr Val Leu Asp Gly Thr Gln Asn Asp Thr Ala  
170 175 180

Phe Val Phe Pro Arg Leu Arg Asp Phe Thr Leu Ala Met Ala Ala  
185 190 195

Arg Lys Ala Ser Arg Val Arg Val Pro Phe Pro Trp Val Gly Thr  
200 205 210

Gly Gln Leu Val Tyr Gly Gly Phe Leu Tyr Phe Ala Arg Arg Pro  
215 220 225

Pro Gly Arg Pro Gly Gly Gly Gly Glu Met Glu Asn Thr Leu Gln  
230 235 240

Leu Ile Lys Phe His Leu Ala Asn Arg Thr Val Val Asp Ser Ser  
245 250 255

Val Phe Pro Ala Glu Gly Leu Ile Pro Pro Tyr Gly Leu Thr Ala  
260 265 270

Asp Thr Tyr Ile Asp Leu Val Ala Asp Glu Glu Gly Leu Trp Ala  
275 280 285

Val Tyr Ala Thr Arg Glu Asp Asp Arg His Leu Cys Leu Ala Lys  
290 295 300

Leu Asp Pro Gln Thr Leu Asp Thr Glu Gln Gln Trp Asp Thr Pro  
305 310 315

Cys Pro Arg Glu Asn Ala Glu Ala Ala Phe Val Ile Cys Gly Thr  
320 325 330

Leu Tyr Val Val Tyr Asn Thr Arg Pro Ala Ser Arg Ala Arg Ile  
335 340 345

Gln Cys Ser Phe Asp Ala Ser Gly Thr Leu Thr Pro Glu Arg Ala  
350 355 360

Ala Leu Pro Tyr Phe Pro Arg Arg Tyr Gly Ala His Ala Ser Leu  
365 370 375

Arg Tyr Asn Pro Arg Glu Arg Gln Leu Tyr Ala Trp Asp Asp Gly  
380 385 390

Tyr Gln Ile Val Tyr Lys Leu Glu Met Arg Lys Lys Glu Glu Glu  
395 400 405

Val

<210> 147

<211> 2052

<212> DNA

<213> Homo sapiens

<400> 147

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gttctctct tctctctaat ccatccgtca cctctctgt catccgttc 150

catgccgtga ggtccattca cagaacacat ccatggctct catgctcagt 200

ttggttctga gttcctcaa gctgggatca gggcagtggc aggtgtttgg 250

gccagacaag cctgtccagg ccttggtggg ggaggacgca gcattctct 300

gtttctgtc tctaagacc aatgcagagg ccatggaagt gcggttctc 350

aggggccagt tctctagcgt ggtccacctc tacagggacg ggaaggacca 400

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 tgtagattaa gtagacaagg aatgtgaata atgcttagat cttattgatg 2000  
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 aa 2052

<210> 148

<211> 500

<212> PRT

<213> Homo sapiens

<400> 148

Met Ala Leu Met Leu Ser Leu Val Leu Ser Leu Leu Lys Leu Gly

1 5 10 15

Ser Gly Gln Trp Gln Val Phe Gly Pro Asp Lys Pro Val Gln Ala

20 25 30

Leu Val Gly Glu Asp Ala Ala Phe Ser Cys Phe Leu Ser Pro Lys

35 40 45

Thr Asn Ala Glu Ala Met Glu Val Arg Phe Phe Arg Gly Gln Phe

50 55 60

Ser Ser Val Val His Leu Tyr Arg Asp Gly Lys Asp Gln Pro Phe

65 70 75

Met Gln Met Pro Gln Tyr Gln Gly Arg Thr Lys Leu Val Lys Asp

80 85 90

Ser Ile Ala Glu Gly Arg Ile Ser Leu Arg Leu Glu Asn Ile Thr  
95 100 105

Val Leu Asp Ala Gly Leu Tyr Gly Cys Arg Ile Ser Ser Gln Ser  
110 115 120

Tyr Tyr Gln Lys Ala Ile Trp Glu Leu Gln Val Ser Ala Leu Gly  
125 130 135

Ser Val Pro Leu Ile Ser Ile Thr Gly Tyr Val Asp Arg Asp Ile  
140 145 150

Gln Leu Leu Cys Gln Ser Ser Gly Trp Phe Pro Arg Pro Thr Ala  
155 160 165

Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser Thr Asp Ser Arg  
170 175 180

Thr Asn Arg Asp Met His Gly Leu Phe Asp Val Glu Ile Ser Leu  
185 190 195

Thr Val Gln Glu Asn Ala Gly Ser Ile Ser Cys Ser Met Arg His  
200 205 210

Ala His Leu Ser Arg Glu Val Glu Ser Arg Val Gln Ile Gly Asp  
215 220 225

Thr Phe Phe Glu Pro Ile Ser Trp His Leu Ala Thr Lys Val Leu  
230 235 240

Gly Ile Leu Cys Cys Gly Leu Phe Phe Gly Ile Val Gly Leu Lys  
245 250 255

Ile Phe Phe Ser Lys Phe Gln Trp Lys Ile Gln Ala Glu Leu Asp  
260 265 270

Trp Arg Arg Lys His Gly Gln Ala Glu Leu Arg Asp Ala Arg Lys  
275 280 285

His Ala Val Glu Val Thr Leu Asp Pro Glu Thr Ala His Pro Lys  
290 295 300

Leu Cys Val Ser Asp Leu Lys Thr Val Thr His Arg Lys Ala Pro  
305 310 315

Gln Glu Val Pro His Ser Glu Lys Arg Phe Thr Arg Lys Ser Val  
320 325 330

Val Ala Ser Gln Ser Phe Gln Ala Gly Lys His Tyr Trp Glu Val  
335 340 345

Asp Gly Gly His Asn Lys Arg Trp Arg Val Gly Val Cys Arg Asp  
350 355 360

Asp Val Asp Arg Arg Lys Glu Tyr Val Thr Leu Ser Pro Asp His  
365 370 375

Gly Tyr Trp Val Leu Arg Leu Asn Gly Glu His Leu Tyr Phe Thr  
380 385 390

Leu Asn Pro Arg Phe Ile Ser Val Phe Pro Arg Thr Pro Pro Thr  
395 400 405

Lys Ile Gly Val Phe Leu Asp Tyr Glu Cys Gly Thr Ile Ser Phe  
410 415 420

Phe Asn Ile Asn Asp Gln Ser Leu Ile Tyr Thr Leu Thr Cys Arg  
425 430 435

Phe Glu Gly Leu Leu Arg Pro Tyr Ile Glu Tyr Pro Ser Tyr Asn  
440 445 450

Glu Gln Asn Gly Thr Pro Ile Val Ile Cys Pro Val Thr Gln Glu  
455 460 465

Ser Glu Lys Glu Ala Ser Trp Gln Arg Ala Ser Ala Ile Pro Glu  
470 475 480

Thr Ser Asn Ser Glu Ser Ser Ser Gln Ala Thr Thr Pro Phe Leu  
485 490 495

Pro Arg Gly Glu Met  
500

<210> 149

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 149

gcgtggtcca cctctacagg gacg 24

<210> 150

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 150

ggaactgacc cagtgtgac acc 23

<210> 151

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 151

gcagatgcca cagtatcaag gcaggacaaa actggtgaag gattc 45

<210> 152

<211> 2294

<212> DNA

<213> Homo sapiens

<400> 152

gcgatggtgc gcccgggtggc ggtggcggcg gcggttcggg aggttcctt 50

ggtcggattg caacgaggag aagatgactg accaaccgac tggctgaatg 100

aatgaatggc ggagccgagc gcgccatgag gagcctgccg agcctgggcg 150

gcctcgccct gttgtgetgc gccgccgccc ccgccgccgt cgcctcagcc 200

gcctcggcgg ggaatgtcac cggcggcgcc ggggccgcgg ggcaggtgga 250

cgcgtcgccg ggccccgggt tgcggggcga gccagccac cccttccta 300

gggacgacggc tcccacggcc caggccccga ggaccggggc cccgcgcgcc 350  
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caccctctt tgggcgactg ctggaccctc ttccaccacc ttccaggcgc 450  
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tggcccggcg ccgaccaccc ctgtagcgac caccgtaccg gcgcccacga 600  
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agaggggagac tctgtcttaa aaaaaaaaaa aaaaaaaaaa aaaa 2294

<210> 153

<211> 258

<212> PRT

<213> Homo sapiens

<400> 153

Met Arg Ser Leu Pro Ser Leu Gly Gly Leu Ala Leu Leu Cys Cys

1 5 10 15

Ala Ala Ala Ala Ala Val Ala Ser Ala Ala Ser Ala Gly Asn

20 25 30

Val Thr Gly Gly Gly Gly Ala Ala Gly Gln Val Asp Ala Ser Pro  
35 40 45

Gly Pro Gly Leu Arg Gly Glu Pro Ser His Pro Phe Pro Arg Ala  
50 55 60

Thr Ala Pro Thr Ala Gln Ala Pro Arg Thr Gly Pro Pro Arg Ala  
65 70 75

Thr Val His Arg Pro Leu Ala Ala Thr Ser Pro Ala Gln Ser Pro  
80 85 90

Glu Thr Thr Pro Leu Trp Ala Thr Ala Gly Pro Ser Ser Thr Thr  
95 100 105

Phe Gln Ala Pro Leu Gly Pro Ser Pro Thr Thr Pro Pro Ala Ala  
110 115 120

Glu Arg Thr Ser Thr Thr Ser Gln Ala Pro Thr Arg Pro Ala Pro  
125 130 135

Thr Thr Leu Ser Thr Thr Thr Gly Pro Ala Pro Thr Thr Pro Val  
140 145 150

Ala Thr Thr Val Pro Ala Pro Thr Thr Pro Arg Thr Pro Thr Pro  
155 160 165

Asp Leu Pro Ser Ser Ser Asn Ser Ser Val Leu Pro Thr Pro Pro  
170 175 180

Ala Thr Glu Ala Pro Ser Ser Pro Pro Pro Glu Tyr Val Cys Asn  
185 190 195

Cys Ser Val Val Gly Ser Leu Asn Val Asn Arg Cys Asn Gln Thr  
200 205 210

Thr Gly Gln Cys Glu Cys Arg Pro Gly Tyr Gln Gly Leu His Cys  
215 220 225

Glu Thr Cys Lys Glu Gly Phe Tyr Leu Asn Tyr Thr Ser Gly Leu  
230 235 240

Cys Gln Pro Cys Asp Cys Ser Pro His Gly Ala Leu Ser Ile Pro  
245 250 255

Cys Asn Arg

<210> 154

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 154

aactgctctg tgggtggaag cctg 24

<210> 155

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 155

cagtcacatg gctgacagac ccac 24

<210> 156

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 156

aggttatcag gggcttcact gtgaaacctg caaagagg 38

<210> 157

<211> 689

<212> DNA

<213> Homo sapiens

<400> 157

tgccggcgag tgtagacctg ggaggatggg cggcctgctg ctggctgctt 50

ttctggcttt ggtctcggtg cccagggccc aggccgtgtg gttgggaaga 100

ctggaccctg agcagcttct tgggccctgg tacgtgcttg cgggtggcctc 150  
 ccgggaaaag ggctttgcca tggagaagga catgaagaac gtcgtggggg 200  
 tgggtgtgac cctcactcca gaaaacaacc tgcggacgct gtccttcag 250  
 cacgggctgg gaggggtgta ccagagtgtc atggacctga taaagcгаа 300  
 ctccggatgg gtgtttgaga atccctcaat aggcgtgctg gagctctggg 350  
 tgctggccac caacttcaga gactatgcca tcatttcac tcagctggag 400  
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 gggcccagca ccagctcaga ataaagcga tccacagca 689

<210> 158

<211> 163

<212> PRT

<213> Homo sapiens

<400> 158

Met Gly Gly Leu Leu Leu Ala Ala Phe Leu Ala Leu Val Ser Val  
 1 5 10 15

Pro Arg Ala Gln Ala Val Trp Leu Gly Arg Leu Asp Pro Glu Gln  
 20 25 30

Leu Leu Gly Pro Trp Tyr Val Leu Ala Val Ala Ser Arg Glu Lys  
 35 40 45

Gly Phe Ala Met Glu Lys Asp Met Lys Asn Val Val Gly Val Val  
 50 55 60

Val Thr Leu Thr Pro Glu Asn Asn Leu Arg Thr Leu Ser Ser Gln  
 65 70 75

His Gly Leu Gly Gly Cys Asp Gln Ser Val Met Asp Leu Ile Lys  
80 85 90

Arg Asn Ser Gly Trp Val Phe Glu Asn Pro Ser Ile Gly Val Leu  
95 100 105

Glu Leu Trp Val Leu Ala Thr Asn Phe Arg Asp Tyr Ala Ile Ile  
110 115 120

Phe Thr Gln Leu Glu Phe Gly Asp Glu Pro Phe Asn Thr Val Glu  
125 130 135

Leu Tyr Ser Leu Thr Glu Thr Ala Ser Gln Glu Ala Met Gly Leu  
140 145 150

Phe Thr Lys Trp Ser Arg Ser Leu Gly Phe Leu Ser Gln  
155 160

<210> 159

<211> 1665

<212> DNA

<213> Homo sapiens

<400> 159

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gtaaactgct gacgatgcag agttccgtga cggtgcagga aggcctgtgt 150

gtccatgtgc cctgctcctt ctctacccc tcgcatggct ggatttacc 200

tggcccagta gtcatggct actggttccg ggaaggggcc aatacagacc 250

aggatgctcc agtggccaca aacaaccag ctcgggcagt gtgggaggag 300

actcgggacc gattccacct ccttggggac ccacatacca agaattgcac 350

cctgagcatc agagatgcca gaagaagtga tgcggggaga tacttcttc 400

gtatggagaa aggaagtata aaatggaatt ataaacatca ccggctctct 450

gtgaatgtga cagccttgac ccacaggccc aacatcctca tcccaggcac 500

cctggagtcc ggctgcccc agaatttgac ctgctctgtg ccctgggcct 550

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acagacaaat tccta 1665

<210> 160  
<211> 463  
<212> PRT  
<213> Homo sapiens

<400> 160

Met Leu Leu Leu Leu Leu Pro Leu Leu Trp Gly Arg Glu Arg Ala  
1 5 10 15

Glu Gly Gln Thr Ser Lys Leu Leu Thr Met Gln Ser Ser Val Thr  
20 25 30

Val Gln Glu Gly Leu Cys Val His Val Pro Cys Ser Phe Ser Tyr  
35 40 45

Pro Ser His Gly Trp Ile Tyr Pro Gly Pro Val Val His Gly Tyr  
50 55 60

Trp Phe Arg Glu Gly Ala Asn Thr Asp Gln Asp Ala Pro Val Ala  
65 70 75

Thr Asn Asn Pro Ala Arg Ala Val Trp Glu Glu Thr Arg Asp Arg  
80 85 90

Phe His Leu Leu Gly Asp Pro His Thr Lys Asn Cys Thr Leu Ser  
95 100 105

Ile Arg Asp Ala Arg Arg Ser Asp Ala Gly Arg Tyr Phe Phe Arg  
110 115 120

Met Glu Lys Gly Ser Ile Lys Trp Asn Tyr Lys His His Arg Leu  
125 130 135

Ser Val Asn Val Thr Ala Leu Thr His Arg Pro Asn Ile Leu Ile  
140 145 150

Pro Gly Thr Leu Glu Ser Gly Cys Pro Gln Asn Leu Thr Cys Ser  
155 160 165

Val Pro Trp Ala Cys Glu Gln Gly Thr Pro Pro Met Ile Ser Trp  
170 175 180

Ile Gly Thr Ser Val Ser Pro Leu Asp Pro Ser Thr Thr Arg Ser  
185 190 195

Ser Val Leu Thr Leu Ile Pro Gln Pro Gln Asp His Gly Thr Ser  
200 205 210

Leu Thr Cys Gln Val Thr Phe Pro Gly Ala Ser Val Thr Thr Asn  
215 220 225

Lys Thr Val His Leu Asn Val Ser Tyr Pro Pro Gln Asn Leu Thr  
230 235 240

Met Thr Val Phe Gln Gly Asp Gly Thr Val Ser Thr Val Leu Gly  
245 250 255

Asn Gly Ser Ser Leu Ser Leu Pro Glu Gly Gln Ser Leu Arg Leu  
260 265 270

Val Cys Ala Val Asp Ala Val Asp Ser Asn Pro Pro Ala Arg Leu  
275 280 285

Ser Leu Ser Trp Arg Gly Leu Thr Leu Cys Pro Ser Gln Pro Ser  
290 295 300

Asn Pro Gly Val Leu Glu Leu Pro Trp Val His Leu Arg Asp Ala  
305 310 315

Ala Glu Phe Thr Cys Arg Ala Gln Asn Pro Leu Gly Ser Gln Gln  
320 325 330

Val Tyr Leu Asn Val Ser Leu Gln Ser Lys Ala Thr Ser Gly Val  
335 340 345

Thr Gln Gly Val Val Gly Gly Ala Gly Ala Thr Ala Leu Val Phe  
350 355 360

Leu Ser Phe Cys Val Ile Phe Val Val Val Arg Ser Cys Arg Lys  
365 370 375

Lys Ser Ala Arg Pro Ala Ala Gly Val Gly Asp Thr Gly Ile Glu  
380 385 390

Asp Ala Asn Ala Val Arg Gly Ser Ala Ser Gln Gly Pro Leu Thr  
395 400 405

Glu Pro Trp Ala Glu Asp Ser Pro Pro Asp Gln Pro Pro Pro Ala  
410 415 420



Ser Ala Arg Ser Ser Val Gly Glu Gly Glu Leu Gln Tyr Ala Ser  
425 430 435

Leu Ser Phe Gln Met Val Lys Pro Trp Asp Ser Arg Gly Gln Glu  
440 445 450

Ala Thr Asp Thr Glu Tyr Ser Glu Ile Lys Ile His Arg  
455 460

<210> 161

<211> 739

<212> DNA

<213> Homo sapiens

<400> 161

gacgccagt gacctgccga ggtcggcagc acagagctct ggagatgaag 50

accctgttc tgggtgtcac gctcggcctg gccgctgccc tgtccttcac 100

cctggaggag gaggatatca cagggacctg gtacgtgaag gccatggtgg 150

tcgataagga ctttcggag gacaggagc ccaggaaggt gtccccagt 200

aaggtgacag ccctgggcgg tgggaagttg gaagccacgt tcacctcat 250

gagggaggat cggatcatcc agaagaaaat cctgatgcgg aagacggagg 300

agcctggcaa atacagcgc tatgggggca ggaagctcat gtacctgcag 350

gagctgcca ggagggacca ctacatctt tactgcaaag accagcacca 400

tgggggcctg ctccacatgg gaaagcttgt gggtaggaat tctgatacca 450

accgggagc cctggaagaa tttaagaaat tggatgcagc caagggactc 500

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acactaggca gccccgggt ctgcacctcc agagcccacc ctaccaccag 600

acacagagcc cggaccacct ggacctacc tccagccatg acccttcct 650

gtccccccc acctgactcc aaataaagtc ctttcccc aaaaaaaaaa 700

aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 739

<210> 162  
<211> 170  
<212> PRT  
<213> Homo sapiens

<400> 162  
Met Lys Thr Leu Phe Leu Gly Val Thr Leu Gly Leu Ala Ala Ala  
1 5 10 15  
  
Leu Ser Phe Thr Leu Glu Glu Glu Asp Ile Thr Gly Thr Trp Tyr  
20 25 30  
  
Val Lys Ala Met Val Val Asp Lys Asp Phe Pro Glu Asp Arg Arg  
35 40 45  
  
Pro Arg Lys Val Ser Pro Val Lys Val Thr Ala Leu Gly Gly Gly  
50 55 60  
  
Lys Leu Glu Ala Thr Phe Thr Phe Met Arg Glu Asp Arg Cys Ile  
65 70 75  
  
Gln Lys Lys Ile Leu Met Arg Lys Thr Glu Glu Pro Gly Lys Tyr  
80 85 90  
  
Ser Ala Tyr Gly Gly Arg Lys Leu Met Tyr Leu Gln Glu Leu Pro  
95 100 105  
  
Arg Arg Asp His Tyr Ile Phe Tyr Cys Lys Asp Gln His His Gly  
110 115 120  
  
Gly Leu Leu His Met Gly Lys Leu Val Gly Arg Asn Ser Asp Thr  
125 130 135  
  
Asn Arg Glu Ala Leu Glu Glu Phe Lys Lys Leu Val Gln Arg Lys  
140 145 150  
  
Gly Leu Ser Glu Glu Asp Ile Phe Thr Pro Leu Gln Thr Gly Ser  
155 160 165  
  
Cys Val Pro Glu His  
170

<210> 163  
<211> 22  
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 163

ggagatgaag accctgttcc tg 22

<210> 164

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 164

ggagatgaag accctgttcc tgggtg 26

<210> 165

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 165

gtcctccgga aagtccttat c 21

<210> 166

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 166

gcctagtgtt cgggaacgca gcttc 25

<210> 167

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 167

caggacgtg gtacgtgaag gccatggtg tcgataagga cttccggag 50

<210> 168

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 168

ctgtcctca ccctggagga ggagatatc acaggacct ggtac 45

<210> 169

<211> 1204

<212> DNA

<213> Homo sapiens

<400> 169

gttccgcaga tgcagaggtt gaggtggctg cgggactgga agtcacggg 50

cagaggtctc acagagcca aggaacctgg ggcccgtcc tccccctcc 100

aggccatgag gattctgcag ttaacctgc ttgctctggc aacagggtt 150

gtagggggag agaccaggat catcaagggg ttcgagtga agcctcactc 200

ccagccctgg caggcagccc tgttcagaaa gacgcggcta ctctgtgggg 250

cgacgtcat cgtcccccaga tggctcctga cagcagcca ctgcctcaag 300

ccccgtaca tagttcacct ggggcagcac aacctccaga aggaggaggg 350

ctgtgagcag acccgacag cactgagtc cttccccac cccgggttca 400

acaacagcct cccaacaaa gaccaccga atgacatcat gctggtgaag 450

atggcatgc cagtctcat cacctgggt gtgcgaccc tcacctctc 500

ctcacgtgt gtactgctg gcaccagct cctcatttc ggctggggca 550

gcacgtccag cccccagtta cgcctgcctc acaccttgcg atgcgccaac 600  
 atcaccatca ttgagcacca gaagtgtgag aacgcctacc ccggcaacat 650  
 cacagacacc atggtgtgtg ccagcgtgca ggaagggggc aaggactcct 700  
 gccaggggtga ctccgggggc cctctggtct gtaaccagtc tcttcaaggc 750  
 attatctcct ggggccagga tccgtgtgcg atcacccgaa agcctggtgt 800  
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 acaattagac tggaccacc caccacagcc catcacctc catttcact 900  
 tgggttttg ttctgttca ctctgtta atagaaccct aagccaagac 950  
 cctctacgaa cattcttgg gcctcctgga ctacaggaga tctgtcact 1000  
 taataatcaa cctgggggtc gaaatcagt agacctggat tcaaattctg 1050  
 ccttgaata ttgtactct gggaatgaca acacctggtt tgttctctgt 1100  
 tgtatcccca gcccacaaga cagctcctgg ccataatca aggtttcaat 1150  
 aaatattgc taaatgaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1200  
 aaaa 1204

<210> 170

<211> 250

<212> PRT

<213> Homo sapiens

<400> 170

Met Arg Ile Leu Gln Leu Ile Leu Leu Ala Leu Ala Thr Gly Leu

1 5 10 15

Val Gly Gly Glu Thr Arg Ile Ile Lys Gly Phe Glu Cys Lys Pro

20 25 30

His Ser Gln Pro Trp Gln Ala Ala Leu Phe Glu Lys Thr Arg Leu

35 40 45

Leu Cys Gly Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala

50 55 60

Ala His Cys Leu Lys Pro Arg Tyr Ile Val His Leu Gly Gln His  
65 70 75

Asn Leu Gln Lys Glu Glu Gly Cys Glu Gln Thr Arg Thr Ala Thr  
80 85 90

Glu Ser Phe Pro His Pro Gly Phe Asn Asn Ser Leu Pro Asn Lys  
95 100 105

Asp His Arg Asn Asp Ile Met Leu Val Lys Met Ala Ser Pro Val  
110 115 120

Ser Ile Thr Trp Ala Val Arg Pro Leu Thr Leu Ser Ser Arg Cys  
125 130 135

Val Thr Ala Gly Thr Ser Cys Leu Ile Ser Gly Trp Gly Ser Thr  
140 145 150

Ser Ser Pro Gln Leu Arg Leu Pro His Thr Leu Arg Cys Ala Asn  
155 160 165

Ile Thr Ile Ile Glu His Gln Lys Cys Glu Asn Ala Tyr Pro Gly  
170 175 180

Asn Ile Thr Asp Thr Met Val Cys Ala Ser Val Gln Glu Gly Gly  
185 190 195

Lys Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Asn  
200 205 210

Gln Ser Leu Gln Gly Ile Ile Ser Trp Gly Gln Asp Pro Cys Ala  
215 220 225

Ile Thr Arg Lys Pro Gly Val Tyr Thr Lys Val Cys Lys Tyr Val  
230 235 240

Asp Trp Ile Gln Glu Thr Met Lys Asn Asn  
245 250

<210> 171

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 171

ggctgcggga ctggaagtca tcggg 25

<210> 172

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 172

ctccaggcca tgaggattct gcag 24

<210> 173

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 173

cctctggtct gtaaccag 18

<210> 174

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 174

tctgtgatgt tgccggggta ggcg 24

<210> 175

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 175

cgtgtagaca ccaggtttc ggggtg 25

<210> 176

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 176

cccttgatga tcctgggc 18

<210> 177

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 177

aggccatgag gattctgcag ttaatcctgc ttgctctggc aacagggtt 50

<210> 178

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 178

gagagaccag gatcatcaag gggttcgagt gcaagcctca ctc 43

<210> 179

<211> 907

<212> DNA

<213> Homo sapiens

<400> 179

gagcagtgtt ctgctggagc cgatgcaaaa aaccatgcat ttcttattca 50

gattcattgt ttcttttat ctgtggggcc tttttactgc tcagagacaa 100



aagaaagagg agagcaccga agaagtgaaa atagaagttt tgcacgtcc 150  
agaaaactgc tctaagacaa gcaagaagg agacctacta aatgccatt 200  
atgacggcta cctggctaaa gacggctcga aattctactg cagccggaca 250  
caaaatgaag gccaccccaa atggtttgtt ctggtgttg ggcaagtc 300  
aaaaggccta gacattgcta tgacagatat gtgccctgga gaaaagcgaa 350  
aagtagttat acccccttca ttgcatacg gaaaggaagg ctatgcagaa 400  
ggcaagattc caccggatgc tacattgatt ttgagattg aactttatgc 450  
tgtgaccaa ggaccacgga gcattgagac atttaacaa atagacatgg 500  
acaatgacag gcagctctct aaagccgaga taaacctcta ctgcaaagg 550  
gaatttgaaa aagatgagaa gccacgtgac aagtcatac aggatgcagt 600  
tttagaat attttaaga agaatgacca tgatggtgat ggcttcattt 650  
ctccaagga atacaatgta taccaacacg atgaactata gcatatttgt 700  
atttctactt ttttttta gctatttact gtactttatg tataaaacaa 750  
agtcactttt ctccaagttg tatttgctat tttccccta tgagaagata 800  
tttgatctc cccaatacat tgattttggt ataataaatg tgaggctgtt 850  
ttgcaaactt aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 900  
aaaaaaa 907

<210> 180

<211> 222

<212> PRT

<213> Homo sapiens

<400> 180

Met Pro Lys Thr Met His Phe Leu Phe Arg Phe Ile Val Phe Phe

1 5 10 15

Tyr Leu Trp Gly Leu Phe Thr Ala Gln Arg Gln Lys Lys Glu Glu

20 25 30

Ser Thr Glu Glu Val Lys Ile Glu Val Leu His Arg Pro Glu Asn  
35 40 45

Cys Ser Lys Thr Ser Lys Lys Gly Asp Leu Leu Asn Ala His Tyr  
50 55 60

Asp Gly Tyr Leu Ala Lys Asp Gly Ser Lys Phe Tyr Cys Ser Arg  
65 70 75

Thr Gln Asn Glu Gly His Pro Lys Trp Phe Val Leu Gly Val Gly  
80 85 90

Gln Val Ile Lys Gly Leu Asp Ile Ala Met Thr Asp Met Cys Pro  
95 100 105

Gly Glu Lys Arg Lys Val Val Ile Pro Pro Ser Phe Ala Tyr Gly  
110 115 120

Lys Glu Gly Tyr Ala Glu Gly Lys Ile Pro Pro Asp Ala Thr Leu  
125 130 135

Ile Phe Glu Ile Glu Leu Tyr Ala Val Thr Lys Gly Pro Arg Ser  
140 145 150

Ile Glu Thr Phe Lys Gln Ile Asp Met Asp Asn Asp Arg Gln Leu  
155 160 165

Ser Lys Ala Glu Ile Asn Leu Tyr Leu Gln Arg Glu Phe Glu Lys  
170 175 180

Asp Glu Lys Pro Arg Asp Lys Ser Tyr Gln Asp Ala Val Leu Glu  
185 190 195

Asp Ile Phe Lys Lys Asn Asp His Asp Gly Asp Gly Phe Ile Ser  
200 205 210

Pro Lys Glu Tyr Asn Val Tyr Gln His Asp Glu Leu  
215 220

<210> 181

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 181

gtgttctgct ggagccgatg cc 22

<210> 182

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 182

gacatggaca atgacagg 18

<210> 183

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 183

cctttcagga tgtaggag 18

<210> 184

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 184

gatgtctgcc accccaag 18

<210> 185

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 185  
gcacacctgat atgacttgc acgtggc 27

<210> 186  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 186  
tacaagaggg aagaggagtt gcac 24

<210> 187  
<211> 52  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 187  
gccattatg acggctacct ggctaaagac ggctcgaaat tctactgcag 50  
  
cc 52

<210> 188  
<211> 573  
<212> DNA  
<213> Homo sapiens

<400> 188  
cagaaatgca gggaccattg cttctccag gcctctgctt tctgctgagc 50  
  
ctctttggag ctgtgactca gaaaacaaa acttcctgtg ctaagtggcc 100  
  
cccaaatgct tcctgtgtca ataactca ctgcacctgc aacctggat 150  
  
atacttctgg atctgggcag aaactattca cattcccctt ggagacatgt 200  
  
aacgccaggc atggtggctc gcgcctgtaa tcccagtctt ttgggaagcc 250  
  
aaggcagggtg gatcacctga ggtcaggagt ttgagaccag cctggccaac 300

atagtgaac cccgtgtcta ctaaaaatac aaaaatcagc cgggcgtggt 350  
 ggtgcatgcc tgcaatccca gttactcggg aggctgaggc aggagaatcg 400  
 cttgaactca ggaggcagaa gttgcagtga acccagatcc tgccattgca 450  
 ctccagcatg gatgacagag caagactccg tctcaaaaag aaaagatagt 500  
 ttcttgttc atttcgcgac tgccctctca gtgttctcg ggatcccctc 550  
 ccaaataaag tacttatatt ctc 573

<210> 189

<211> 74

<212> PRT

<213> Homo sapiens

<400> 189

Met Gln Gly Pro Leu Leu Leu Pro Gly Leu Cys Phe Leu Leu Ser

1 5 10 15

Leu Phe Gly Ala Val Thr Gln Lys Thr Lys Thr Ser Cys Ala Lys

20 25 30

Cys Pro Pro Asn Ala Ser Cys Val Asn Asn Thr His Cys Thr Cys

35 40 45

Asn His Gly Tyr Thr Ser Gly Ser Gly Gln Lys Leu Phe Thr Phe

50 55 60

Pro Leu Glu Thr Cys Asn Ala Arg His Gly Gly Ser Arg Leu

65 70

<210> 190

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 190

agggaccatt gcttcttcca ggcc 24

<210> 191

<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 191  
cgttacatgt ctccaagggg aatg 24

<210> 192  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 192  
cctgtgctaa gtgccccca aatgcttcct gtgtcaataa cactcactgc 50

<210> 193  
<211> 1091  
<212> DNA  
<213> Homo sapiens

<400> 193  
caagcaggtc atccccttgg tgaccttcaa agagaagcag agagggcaga 50  
  
ggtggggggc acagggaag ggtgacctct gagattcccc tttccccca 100  
  
gactttggaa gtgaccacc atggggctca gcattctttt gctcctgtgt 150  
  
gttcttgggc tcagccaggc agccacaccg aagattttca atggcactga 200  
  
gtgtgggcgt aactcacagc cgtggcaggt ggggctgttt gagggcacca 250  
  
gcctgcgtg cgggggtgtc cttattgacc acagtggtgt cctcacagcg 300  
  
gtcactgca gcggcagcag gtactgggtg cgcctggggg aacacagcct 350  
  
cagccagctc gactggaccg agcagatccg gcacagcggc ttctctgtga 400  
  
cccatccccg ctacctggga gcctcgacga gccacgagca cgacctccgg 450

ctgctgcggc tgcgctgcc cgtccgcgta accagcagcg ttcaaccct 500  
 gccctgccc aatgactgtg caaccgtgg caccgagtgc cacgtctcag 550  
 gctggggcat caccaaccac ccacggaacc cattcccgga tctgtccag 600  
 tgcctcaacc tctccatcgt ctcccatgcc acctgccatg gtgtgtatcc 650  
 cgggagaatc acgagcaaca tgggtgtgtc aggcggcgtc ccggggcagg 700  
 atgcctgcca ggggtattct gggggccccc tgggtgtgtg gggagtcctt 750  
 caaggctgtg tgcctgggg gtctgtggg ccctgtggac aagatggcat 800  
 ccctggagtc tacacctata ttgcaagta tgtggactgg atccggatga 850  
 tcatgaggaa caactgacct gtttctcca cctccacccc cacccttaa 900  
 ctgggtacc cctctggccc tcagagcacc aatatctct ccatcattc 950  
 ccctagctcc actctgttg gcctgggaac ttcttgaac tttaactct 1000  
 gccagccctt ctaagacca cgagcgggg gagagaagtg tgcaatagtc 1050  
 tggaataaat ataatgaag gaggggcaaa aaaaaaaaaa a 1091

<210> 194

<211> 248

<212> PRT

<213> Homo sapiens

<400> 194

Met Gly Leu Ser Ile Phe Leu Leu Leu Cys Val Leu Gly Leu Ser

1 5 10 15

Gln Ala Ala Thr Pro Lys Ile Phe Asn Gly Thr Glu Cys Gly Arg

20 25 30

Asn Ser Gln Pro Trp Gln Val Gly Leu Phe Glu Gly Thr Ser Leu

35 40 45

Arg Cys Gly Gly Val Leu Ile Asp His Arg Trp Val Leu Thr Ala

50 55 60

Ala His Cys Ser Gly Ser Arg Tyr Trp Val Arg Leu Gly Glu His

65	70	75
Ser Leu Ser Gln Leu Asp Trp Thr Glu Gln Ile Arg His Ser Gly		
80	85	90
Phe Ser Val Thr His Pro Gly Tyr Leu Gly Ala Ser Thr Ser His		
95	100	105
Glu His Asp Leu Arg Leu Leu Arg Leu Arg Leu Pro Val Arg Val		
110	115	120
Thr Ser Ser Val Gln Pro Leu Pro Leu Pro Asn Asp Cys Ala Thr		
125	130	135
Ala Gly Thr Glu Cys His Val Ser Gly Trp Gly Ile Thr Asn His		
140	145	150
Pro Arg Asn Pro Phe Pro Asp Leu Leu Gln Cys Leu Asn Leu Ser		
155	160	165
Ile Val Ser His Ala Thr Cys His Gly Val Tyr Pro Gly Arg Ile		
170	175	180
Thr Ser Asn Met Val Cys Ala Gly Gly Val Pro Gly Gln Asp Ala		
185	190	195
Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Gly Gly Val Leu		
200	205	210
Gln Gly Leu Val Ser Trp Gly Ser Val Gly Pro Cys Gly Gln Asp		
215	220	225
Gly Ile Pro Gly Val Tyr Thr Tyr Ile Cys Lys Tyr Val Asp Trp		
230	235	240
Ile Arg Met Ile Met Arg Asn Asn		
245		

<210> 195

<211> 1485

<212> DNA

<213> Homo sapiens

<400> 195

gcggccacac gcagctagcc ggagcccgga ccaggcgcct gtgcctcctc 50



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tcgccaatgtc gggcgagctc agcaacaggt tccaaggagg gaaggcgttc 150  
ggcttgctca aagccccgca ggagaggagg ctggccgaga tcaaccggga 200  
gtttctgtgt gaccagaagt acagtgatga agagaacctt ccagaaaagc 250  
tcacagcctt caaagagaag tacatggagt ttgacctgaa caatgaaggc 300  
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caagaccac ctggagatga agaagatgat ctgagagggt acaggagggg 400  
tcagtacac tatatcctac cgagactttg tgaacatgat gctggggaaa 450  
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accagga cagccactg gggccccgct gccccagtg atccccactc 1100  
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tggggtttgg ggggaaaggt cagctcagtg ctgttcacc ttttagggag 1350

gatactgagg ggaccaggat gggagaaatga ggagtaaaat gctcacggca 1400

aagtcagcag cactggtaag ccaagactga gaaatacaag gttgcttgtc 1450

tgacccaat ctgcttgaaa aaaaaaaaaa aaaaa 1485

<210> 196

<211> 150

<212> PRT

<213> Homo sapiens

<400> 196

Met Ser Gly Glu Leu Ser Asn Arg Phe Gln Gly Gly Lys Ala Phe

1 5 10 15

Gly Leu Leu Lys Ala Arg Gln Glu Arg Arg Leu Ala Glu Ile Asn

20 25 30

Arg Glu Phe Leu Cys Asp Gln Lys Tyr Ser Asp Glu Glu Asn Leu

35 40 45

Pro Glu Lys Leu Thr Ala Phe Lys Glu Lys Tyr Met Glu Phe Asp

50 55 60

Leu Asn Asn Glu Gly Glu Ile Asp Leu Met Ser Leu Lys Arg Met

65 70 75

Met Glu Lys Leu Gly Val Pro Lys Thr His Leu Glu Met Lys Lys

80 85 90

Met Ile Ser Glu Val Thr Gly Gly Val Ser Asp Thr Ile Ser Tyr

95 100 105

Arg Asp Phe Val Asn Met Met Leu Gly Lys Arg Ser Ala Val Leu

110 115 120

Lys Leu Val Met Met Phe Glu Gly Lys Ala Asn Glu Ser Ser Pro

125 130 135

Lys Pro Val Gly Pro Pro Pro Glu Arg Asp Ile Ala Ser Leu Pro  
140 145 150

<210> 197

<211> 4842

<212> DNA

<213> Homo sapiens

<400> 197

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ggggtcggcg ccgccgtgcg cgcccgcctg gcgctggcct tggcgctggc 150  
gagcgtcctg agtgggcctc cagccgtcgc ctgccccacc aagtgtacct 200  
gtccgctgc cagcgtggac tgccacgggc tgggcctccg cgcggttct 250  
cggggcatcc cccgcaacgc tgagcgcctt gacctggaca gaaataatat 300  
caccaggatc accaagatgg acttcgctgg gctcaagaac ctccgagtct 350  
tgcacttgga agacaaccag gtcagcgtca tcgagagagg cgccttcag 400  
gacctgaagc agctagagcg actgcgcctg aacaagaata agctgcaagt 450  
ccttcagaa ttgcttttcc agagcacgcc gaagctcacc agactagatt 500  
tgagtgaaaa ccagatccag gggatcccga ggaaggcgtt ccgcggcatc 550  
accgatgtga agaacctgca actggacaac aaccacatca gctgcattga 600  
agatggagcc ttccgagcgc tgcgcgattt ggagatcctt accctcaaca 650  
acaacaacat cagtcgcac ctggtcacca gcttcaacca catgccgaag 700  
atccgaactc tgcgcctcca ctccaaccac ctctactgcg actgccacct 750  
ggcctggctc tcggattggc tgcgacagcg acggacagti ggccagtca 800  
cactctgcat ggctcctgtg catttgaggg gcttcaacgt ggcggatgtg 850  
cagaagaagg agtacgtgtg cccagcccc cactcggagc ccccatcctg 900

caatgccaac tccatctcct gcccttcgcc ctgcacgtgc agcaataaca 950  
tcgtggactg tcgaggaaag ggcttgatgg agattcctgc caacttgccg 1000  
gagggcatcg tcgaaatacg cctagaacag aactccatca aagccatccc 1050  
tgcaggagcc ttcacccagt acaagaaact gaagcgaata gacatcagca 1100  
agaatcagat atcggaatatt gctccagatg ccttcaggcg cctgaaatca 1150  
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tgtgcgactg ccacttgaag tggctggccg actacctcca ggacaacccc 1450  
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<211> 1523

<212> PRT

<213> Homo sapiens

<400> 198

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Leu Ala Leu Ala Leu Ala Leu Ala Ser Val Leu Ser Gly Pro Pro

20 25 30

Ala Val Ala Cys Pro Thr Lys Cys Thr Cys Ser Ala Ala Ser Val

35 40 45

Asp Cys His Gly Leu Gly Leu Arg Ala Val Pro Arg Gly Ile Pro

50 55 60

Arg Asn Ala Glu Arg Leu Asp Leu Asp Arg Asn Asn Ile Thr Arg

65 70 75

Ile Thr Lys Met Asp Phe Ala Gly Leu Lys Asn Leu Arg Val Leu

80 85 90

His Leu Glu Asp Asn Gln Val Ser Val Ile Glu Arg Gly Ala Phe

95	100	105
Gln Asp Leu Lys Gln Leu Glu Arg Leu Arg Leu Asn Lys Asn Lys		
110	115	120
Leu Gln Val Leu Pro Glu Leu Leu Phe Gln Ser Thr Pro Lys Leu		
125	130	135
Thr Arg Leu Asp Leu Ser Glu Asn Gln Ile Gln Gly Ile Pro Arg		
140	145	150
Lys Ala Phe Arg Gly Ile Thr Asp Val Lys Asn Leu Gln Leu Asp		
155	160	165
Asn Asn His Ile Ser Cys Ile Glu Asp Gly Ala Phe Arg Ala Leu		
170	175	180
Arg Asp Leu Glu Ile Leu Thr Leu Asn Asn Asn Asn Ile Ser Arg		
185	190	195
Ile Leu Val Thr Ser Phe Asn His Met Pro Lys Ile Arg Thr Leu		
200	205	210
Arg Leu His Ser Asn His Leu Tyr Cys Asp Cys His Leu Ala Trp		
215	220	225
Leu Ser Asp Trp Leu Arg Gln Arg Arg Thr Val Gly Gln Phe Thr		
230	235	240
Leu Cys Met Ala Pro Val His Leu Arg Gly Phe Asn Val Ala Asp		
245	250	255
Val Gln Lys Lys Glu Tyr Val Cys Pro Ala Pro His Ser Glu Pro		
260	265	270
Pro Ser Cys Asn Ala Asn Ser Ile Ser Cys Pro Ser Pro Cys Thr		
275	280	285
Cys Ser Asn Asn Ile Val Asp Cys Arg Gly Lys Gly Leu Met Glu		
290	295	300
Ile Pro Ala Asn Leu Pro Glu Gly Ile Val Glu Ile Arg Leu Glu		
305	310	315
Gln Asn Ser Ile Lys Ala Ile Pro Ala Gly Ala Phe Thr Gln Tyr		



320	325	330
Lys Lys Leu Lys Arg Ile Asp Ile Ser Lys Asn Gln Ile Ser Asp		
335	340	345
Ile Ala Pro Asp Ala Phe Gln Gly Leu Lys Ser Leu Thr Ser Leu		
350	355	360
Val Leu Tyr Gly Asn Lys Ile Thr Glu Ile Ala Lys Gly Leu Phe		
365	370	375
Asp Gly Leu Val Ser Leu Gln Leu Leu Leu Leu Asn Ala Asn Lys		
380	385	390
Ile Asn Cys Leu Arg Val Asn Thr Phe Gln Asp Leu Gln Asn Leu		
395	400	405
Asn Leu Leu Ser Leu Tyr Asp Asn Lys Leu Gln Thr Ile Ser Lys		
410	415	420
Gly Leu Phe Ala Pro Leu Gln Ser Ile Gln Thr Leu His Leu Ala		
425	430	435
Gln Asn Pro Phe Val Cys Asp Cys His Leu Lys Trp Leu Ala Asp		
440	445	450
Tyr Leu Gln Asp Asn Pro Ile Glu Thr Ser Gly Ala Arg Cys Ser		
455	460	465
Ser Pro Arg Arg Leu Ala Asn Lys Arg Ile Ser Gln Ile Lys Ser		
470	475	480
Lys Lys Phe Arg Cys Ser Gly Ser Glu Asp Tyr Arg Ser Arg Phe		
485	490	495
Ser Ser Glu Cys Phe Met Asp Leu Val Cys Pro Glu Lys Cys Arg		
500	505	510
Cys Glu Gly Thr Ile Val Asp Cys Ser Asn Gln Lys Leu Val Arg		
515	520	525
Ile Pro Ser His Leu Pro Glu Tyr Val Thr Asp Leu Arg Leu Asn		
530	535	540
Asp Asn Glu Val Ser Val Leu Glu Ala Thr Gly Ile Phe Lys Lys		

545	550	555
Leu Pro Asn Leu Arg Lys Ile Asn Leu Ser Asn Asn Lys Ile Lys		
560	565	570
Glu Val Arg Glu Gly Ala Phe Asp Gly Ala Ala Ser Val Gln Glu		
575	580	585
Leu Met Leu Thr Gly Asn Gln Leu Glu Thr Val His Gly Arg Val		
590	595	600
Phe Arg Gly Leu Ser Gly Leu Lys Thr Leu Met Leu Arg Ser Asn		
605	610	615
Leu Ile Ser Cys Val Ser Asn Asp Thr Phe Ala Gly Leu Ser Ser		
620	625	630
Val Arg Leu Leu Ser Leu Tyr Asp Asn Arg Ile Thr Thr Ile Thr		
635	640	645
Pro Gly Ala Phe Thr Thr Leu Val Ser Leu Ser Thr Ile Asn Leu		
650	655	660
Leu Ser Asn Pro Phe Asn Cys Asn Cys His Leu Ala Trp Leu Gly		
665	670	675
Lys Trp Leu Arg Lys Arg Arg Ile Val Ser Gly Asn Pro Arg Cys		
680	685	690
Gln Lys Pro Phe Phe Leu Lys Glu Ile Pro Ile Gln Asp Val Ala		
695	700	705
Ile Gln Asp Phe Thr Cys Asp Gly Asn Glu Glu Ser Ser Cys Gln		
710	715	720
Leu Ser Pro Arg Cys Pro Glu Gln Cys Thr Cys Met Glu Thr Val		
725	730	735
Val Arg Cys Ser Asn Lys Gly Leu Arg Ala Leu Pro Arg Gly Met		
740	745	750
Pro Lys Asp Val Thr Glu Leu Tyr Leu Glu Gly Asn His Leu Thr		
755	760	765
Ala Val Pro Arg Glu Leu Ser Ala Leu Arg His Leu Thr Leu Ile		

770	775	780
Asp Leu Ser Asn Asn Ser Ile Ser Met Leu Thr Asn Tyr Thr Phe		
785	790	795
Ser Asn Met Ser His Leu Ser Thr Leu Ile Leu Ser Tyr Asn Arg		
800	805	810
Leu Arg Cys Ile Pro Val His Ala Phe Asn Gly Leu Arg Ser Leu		
815	820	825
Arg Val Leu Thr Leu His Gly Asn Asp Ile Ser Ser Val Pro Glu		
830	835	840
Gly Ser Phe Asn Asp Leu Thr Ser Leu Ser His Leu Ala Leu Gly		
845	850	855
Thr Asn Pro Leu His Cys Asp Cys Ser Leu Arg Trp Leu Ser Glu		
860	865	870
Trp Val Lys Ala Gly Tyr Lys Glu Pro Gly Ile Ala Arg Cys Ser		
875	880	885
Ser Pro Glu Pro Met Ala Asp Arg Leu Leu Leu Thr Thr Pro Thr		
890	895	900
His Arg Phe Gln Cys Lys Gly Pro Val Asp Ile Asn Ile Val Ala		
905	910	915
Lys Cys Asn Ala Cys Leu Ser Ser Pro Cys Lys Asn Asn Gly Thr		
920	925	930
Cys Thr Gln Asp Pro Val Glu Leu Tyr Arg Cys Ala Cys Pro Tyr		
935	940	945
Ser Tyr Lys Gly Lys Asp Cys Thr Val Pro Ile Asn Thr Cys Ile		
950	955	960
Gln Asn Pro Cys Gln His Gly Gly Thr Cys His Leu Ser Asp Ser		
965	970	975
His Lys Asp Gly Phe Ser Cys Ser Cys Pro Leu Gly Phe Glu Gly		
980	985	990
Gln Arg Cys Glu Ile Asn Pro Asp Asp Cys Glu Asp Asn Asp Cys		

995	1000	1005
Glu Asn Asn Ala Thr Cys Val Asp Gly Ile Asn Asn Tyr Val Cys		
1010	1015	1020
Ile Cys Pro Pro Asn Tyr Thr Gly Glu Leu Cys Asp Glu Val Ile		
1025	1030	1035
Asp His Cys Val Pro Glu Leu Asn Leu Cys Gln His Glu Ala Lys		
1040	1045	1050
Cys Ile Pro Leu Asp Lys Gly Phe Ser Cys Glu Cys Val Pro Gly		
1055	1060	1065
Tyr Ser Gly Lys Leu Cys Glu Thr Asp Asn Asp Asp Cys Val Ala		
1070	1075	1080
His Lys Cys Arg His Gly Ala Gln Cys Val Asp Thr Ile Asn Gly		
1085	1090	1095
Tyr Thr Cys Thr Cys Pro Gln Gly Phe Ser Gly Pro Phe Cys Glu		
1100	1105	1110
His Pro Pro Pro Met Val Leu Leu Gln Thr Ser Pro Cys Asp Gln		
1115	1120	1125
Tyr Glu Cys Gln Asn Gly Ala Gln Cys Ile Val Val Gln Gln Glu		
1130	1135	1140
Pro Thr Cys Arg Cys Pro Pro Gly Phe Ala Gly Pro Arg Cys Glu		
1145	1150	1155
Lys Leu Ile Thr Val Asn Phe Val Gly Lys Asp Ser Tyr Val Glu		
1160	1165	1170
Leu Ala Ser Ala Lys Val Arg Pro Gln Ala Asn Ile Ser Leu Gln		
1175	1180	1185
Val Ala Thr Asp Lys Asp Asn Gly Ile Leu Leu Tyr Lys Gly Asp		
1190	1195	1200
Asn Asp Pro Leu Ala Leu Glu Leu Tyr Gln Gly His Val Arg Leu		
1205	1210	1215
Val Tyr Asp Ser Leu Ser Ser Pro Pro Thr Thr Val Tyr Ser Val		

1220	1225	1230
Glu Thr Val Asn Asp Gly Gln Phe His Ser Val Glu Leu Val Thr		
1235	1240	1245
Leu Asn Gln Thr Leu Asn Leu Val Val Asp Lys Gly Thr Pro Lys		
1250	1255	1260
Ser Leu Gly Lys Leu Gln Lys Gln Pro Ala Val Gly Ile Asn Ser		
1265	1270	1275
Pro Leu Tyr Leu Gly Gly Ile Pro Thr Ser Thr Gly Leu Ser Ala		
1280	1285	1290
Leu Arg Gln Gly Thr Asp Arg Pro Leu Gly Gly Phe His Gly Cys		
1295	1300	1305
Ile His Glu Val Arg Ile Asn Asn Glu Leu Gln Asp Phe Lys Ala		
1310	1315	1320
Leu Pro Pro Gln Ser Leu Gly Val Ser Pro Gly Cys Lys Ser Cys		
1325	1330	1335
Thr Val Cys Lys His Gly Leu Cys Arg Ser Val Glu Lys Asp Ser		
1340	1345	1350
Val Val Cys Glu Cys Arg Pro Gly Trp Thr Gly Pro Leu Cys Asp		
1355	1360	1365
Gln Glu Ala Arg Asp Pro Cys Leu Gly His Arg Cys His His Gly		
1370	1375	1380
Lys Cys Val Ala Thr Gly Thr Ser Tyr Met Cys Lys Cys Ala Glu		
1385	1390	1395
Gly Tyr Gly Gly Asp Leu Cys Asp Asn Lys Asn Asp Ser Ala Asn		
1400	1405	1410
Ala Cys Ser Ala Phe Lys Cys His His Gly Gln Cys His Ile Ser		
1415	1420	1425
Asp Gln Gly Glu Pro Tyr Cys Leu Cys Gln Pro Gly Phe Ser Gly		
1430	1435	1440
Glu His Cys Gln Gln Glu Asn Pro Cys Leu Gly Gln Val Val Arg		

1445	1450	1455
Glu Val Ile Arg Arg Gln Lys Gly Tyr Ala Ser Cys Ala Thr Ala		
1460	1465	1470
Ser Lys Val Pro Ile Met Glu Cys Arg Gly Gly Cys Gly Pro Gln		
1475	1480	1485
Cys Cys Gln Pro Thr Arg Ser Lys Arg Arg Lys Tyr Val Phe Gln		
1490	1495	1500
Cys Thr Asp Gly Ser Ser Phe Val Glu Glu Val Glu Arg His Leu		
1505	1510	1515
Glu Cys Gly Cys Leu Ala Cys Ser		
1520		

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 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 199  
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<210> 200  
 <211> 24  
 <212> DNA  
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<220>  
 <223> Synthetic oligonucleotide probe

<400> 200  
 ttgttgcat tgaggaggag cagc 24

<210> 201  
 <211> 50  
 <212> DNA  
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<220>

<223> Synthetic oligonucleotide probe

<400> 201

gagggcatcg tcgaaatacg cctagaacag aactccatca aagccatccc 50

<210> 202

<211> 753

<212> DNA

<213> Homo sapiens

<400> 202

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gaatctgcct tticagtctt gtctccggca ggctttgagg atgaaggctg 150

cgggcattct gaccctcatt ggctgcctgg tcacaggcgc cgagtccaaa 200

atctacactc gttgcaaact ggcaaaaata ttctcgaggg ctggcctgga 250

caattactgg ggcttcagcc ttggaaactg gatctgcatg gcatattatg 300

agagcggcta caacaccaca gccccgacgg tcctggatga cggcagcatc 350

gactatggca tcttcagat caacagcttc gcgtgggtgca gacgcggaaa 400

gctgaaggag aacaaccact gccatgtcgc ctgctcagcc ttgatcactg 450

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caaggaatga actattggca aggctggaag aaacattgtg agggcagaga 550

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gtc 753

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<213> Homo sapiens

<400> 203

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Gly Ala Glu Ser Lys Ile Tyr Thr Arg Cys Lys Leu Ala Lys Ile

20 25 30

Phe Ser Arg Ala Gly Leu Asp Asn Tyr Trp Gly Phe Ser Leu Gly

35 40 45

Asn Trp Ile Cys Met Ala Tyr Tyr Glu Ser Gly Tyr Asn Thr Thr

50 55 60

Ala Pro Thr Val Leu Asp Asp Gly Ser Ile Asp Tyr Gly Ile Phe

65 70 75

Gln Ile Asn Ser Phe Ala Trp Cys Arg Arg Gly Lys Leu Lys Glu

80 85 90

Asn Asn His Cys His Val Ala Cys Ser Ala Leu Ile Thr Asp Asp

95 100 105

Leu Thr Asp Ala Ile Ile Cys Ala Arg Lys Ile Val Lys Glu Thr

110 115 120

Gln Gly Met Asn Tyr Trp Gln Gly Trp Lys Lys His Cys Glu Gly

125 130 135

Arg Asp Leu Ser Glu Trp Lys Lys Gly Cys Glu Val Ser

140 145

<210> 204

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 204

gcaggctttg aggatgaagg ctgc 24



<210> 205  
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<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

<400> 205  
ctcattggct gcctggcac aggc 24

<210> 206  
<211> 24  
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<220>  
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<400> 206  
ccagtcggac aggtctctcc cctc 24

<210> 207  
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<212> DNA  
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<220>  
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<400> 207  
tcagtgacca aggctgagca ggcg 24

<210> 208  
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<212> DNA  
<213> Artificial Sequence

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<400> 208  
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<210> 209

<211> 1648

<212> DNA

<213> Homo sapiens

<400> 209

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tattaaaact tgtacatggc tccccattgg ttttggaga aaagttaag 150  
ctttttacct tgggtctgc ctgtatccca gtgttcaggc tggctagacg 200  
gcggaagaag atcctatatt actgtcactt cccagatctg cttctacca 250  
agagagattc ttttctaaa cgactataca gggccccaat tgactggata 300  
gaggaataca ccacaggcat ggcagactgc atcttagtca acagccagtt 350  
cacagctgct gttttaagg aaacattcaa gtccctgtct cacatagacc 400  
ctgatgtcct ctatccatct ctaaagtca ccagctttga ctcagttgtt 450  
cctgaaaagc tggatgacct agtccccaag gggaaaaaat tctgtgtgt 500  
ctccatcaac agatacgaag ggaagaaaaa tctgactttg gcactggaag 550  
ccctagtaca gctgcgtgga agattgacat cccaagattg ggagagggtt 600  
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cgggtggacc cttggagtcc atgaccaca gtgtcacagg gtttctgtgt 900  
gagcctgacc cgggtgcactt ctcagaagca atagaaaagt tcacccgtga 950  
accttcctta aaagccacca tgggcctggc tggaagagcc agagtgaagg 1000

aaaaattttc ccctgaagca ttacagaac agctctaccg atatgttacc 1050

aaactgctgg tataatcaga ttgtttttaa gatctccatt aatgtcattt 1100

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atgcagaaga gatcttttaa aaaataaact tgagtcttga atgtgagcca 1200

cttctctata taccacacct ccctgtccac ttctcagaaa aacctgtct 1250

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actgagatat aataaaagggt gtttatcata aaaaaaaaaa aaaaaaaaa 1648

<210> 210

<211> 323

<212> PRT

<213> Homo sapiens

<400> 210

Met Pro Leu Leu Lys Leu Val His Gly Ser Pro Leu Val Phe Gly

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Glu Lys Phe Lys Leu Phe Thr Leu Val Ser Ala Cys Ile Pro Val

20 25 30

Phe Arg Leu Ala Arg Arg Arg Lys Lys Ile Leu Phe Tyr Cys His

35 40 45

Phe Pro Asp Leu Leu Leu Thr Lys Arg Asp Ser Phe Leu Lys Arg

50 55 60

Leu Tyr Arg Ala Pro Ile Asp Trp Ile Glu Glu Tyr Thr Thr Gly

65	70	75
Met Ala Asp Cys Ile Leu Val Asn Ser Gln Phe Thr Ala Ala Val		
80	85	90
Phe Lys Glu Thr Phe Lys Ser Leu Ser His Ile Asp Pro Asp Val		
95	100	105
Leu Tyr Pro Ser Leu Asn Val Thr Ser Phe Asp Ser Val Val Pro		
110	115	120
Glu Lys Leu Asp Asp Leu Val Pro Lys Gly Lys Lys Phe Leu Leu		
125	130	135
Leu Ser Ile Asn Arg Tyr Glu Arg Lys Lys Asn Leu Thr Leu Ala		
140	145	150
Leu Glu Ala Leu Val Gln Leu Arg Gly Arg Leu Thr Ser Gln Asp		
155	160	165
Trp Glu Arg Val His Leu Ile Val Ala Gly Gly Tyr Asp Glu Arg		
170	175	180
Val Leu Glu Asn Val Glu His Tyr Gln Glu Leu Lys Lys Met Val		
185	190	195
Gln Gln Ser Asp Leu Gly Gln Tyr Val Thr Phe Leu Arg Ser Phe		
200	205	210
Ser Asp Lys Gln Lys Ile Ser Leu Leu His Ser Cys Thr Cys Val		
215	220	225
Leu Tyr Thr Pro Ser Asn Glu His Phe Gly Ile Val Pro Leu Glu		
230	235	240
Ala Met Tyr Met Gln Cys Pro Val Ile Ala Val Asn Ser Gly Gly		
245	250	255
Pro Leu Glu Ser Ile Asp His Ser Val Thr Gly Phe Leu Cys Glu		
260	265	270
Pro Asp Pro Val His Phe Ser Glu Ala Ile Glu Lys Phe Ile Arg		
275	280	285
Glu Pro Ser Leu Lys Ala Thr Met Gly Leu Ala Gly Arg Ala Arg		

290	295	300
Val Lys Glu Lys Phe Ser Pro Glu Ala Phe Thr Glu Gln Leu Tyr		
305	310	315
Arg Tyr Val Thr Lys Leu Leu Val		
320		

<210> 211  
 <211> 1554  
 <212> DNA  
 <213> Homo sapiens

<400> 211  
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 tctacctta tccggcttc agacaagctg caggaattcc agggattact 150  
 ccaactgaag aaaaagatgg taatctcca gatattgtga atagtgaag 200  
 tttgcatgag ttcttggtta attgcatga gagatatggg cctgtggtct 250  
 cctcttggtt tggcaggcgc ctcgtggtta gtttgggcac tgtgatgta 300  
 ctgaagcagc atatcaatcc caataagaca tcggaccctt ttgaaacat 350  
 gctgaagtca ttattaaggt atcaatctgg tggtaggcagt gtgagtgaag 400  
 accacatgag gaaaaaattg tatgaaaatg gtgtgactga ttctctgaag 450  
 agtaactttg ccctctctct aaagctttca gaagaattat tagataaatg 500  
 gctctctac ccagagaccc agcacgtgcc cctcagccag catatgcttg 550  
 gttttgctat gaagtctgtt acacagatgg taatgggtag tacatttgaa 600  
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 aacatcataa aagaacgaaa aggaaggaac ttcagtcaac atattttcat 800

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 tgaagagata aaccaagttt ttggaaatgg tcctgttact ccagagaaaa 1000  
 ttgagcagct cagatattgt cagcatgtgc tttgtgaaac tgttcgaact 1050  
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 tgaccgattt attattccta gagagaccct cgtcctttat gcccttggtg 1150  
 tgggtactta ggatcctaact acttgcccat ctccacacaa gtttgatcca 1200  
 gatcggtttg atgatgaatt agtaatgaaa acttttctct cacttggtt 1250  
 ctcaggcaca caggagtgtc cagagttgag gtttgcata atggtgacca 1300  
 cagtacttct tagtgtattg gtgaagagac tgcacctact ttctgtggag 1350  
 ggacaggtta ttgaacaaaa gtatgaactg gtaacatcat caagggaaga 1400  
 agcttggtatc actgtctcaa agagatatta aaattttata catttaaaat 1450  
 cattgttaaa ttgattgagg aaaacaacca tttaaaaaaa atctatgttg 1500  
 aatcctttta taaaccagta tcactttgta atataaacac ctatttgtac 1550  
 ttaa 1554

<210> 212

<211> 462

<212> PRT

<213> Homo sapiens

<400> 212

Met Leu Asp Phe Ala Ile Phe Ala Val Thr Phe Leu Leu Ala Leu

1 5 10 15

Val Gly Ala Val Leu Tyr Leu Tyr Pro Ala Ser Arg Gln Ala Ala

20 25 30

Gly Ile Pro Gly Ile Thr Pro Thr Glu Glu Lys Asp Gly Asn Leu

35	40	45
Pro Asp Ile Val Asn Ser Gly Ser Leu His Glu Phe Leu Val Asn		
50	55	60
Leu His Glu Arg Tyr Gly Pro Val Val Ser Phe Trp Phe Gly Arg		
65	70	75
Arg Leu Val Val Ser Leu Gly Thr Val Asp Val Leu Lys Gln His		
80	85	90
Ile Asn Pro Asn Lys Thr Ser Asp Pro Phe Glu Thr Met Leu Lys		
95	100	105
Ser Leu Leu Arg Tyr Gln Ser Gly Gly Gly Ser Val Ser Glu Asn		
110	115	120
His Met Arg Lys Lys Leu Tyr Glu Asn Gly Val Thr Asp Ser Leu		
125	130	135
Lys Ser Asn Phe Ala Leu Leu Leu Lys Leu Ser Glu Glu Leu Leu		
140	145	150
Asp Lys Trp Leu Ser Tyr Pro Glu Thr Gln His Val Pro Leu Ser		
155	160	165
Gln His Met Leu Gly Phe Ala Met Lys Ser Val Thr Gln Met Val		
170	175	180
Met Gly Ser Thr Phe Glu Asp Asp Gln Glu Val Ile Arg Phe Gln		
185	190	195
Lys Asn His Gly Thr Val Trp Ser Glu Ile Gly Lys Gly Phe Leu		
200	205	210
Asp Gly Ser Leu Asp Lys Asn Met Thr Arg Lys Lys Gln Tyr Glu		
215	220	225
Asp Ala Leu Met Gln Leu Glu Ser Val Leu Arg Asn Ile Ile Lys		
230	235	240
Glu Arg Lys Gly Arg Asn Phe Ser Gln His Ile Phe Ile Asp Ser		
245	250	255
Leu Val Gln Gly Asn Leu Asn Asp Gln Gln Ile Leu Glu Asp Ser		

260	265	270
Met Ile Phe Ser Leu Ala Ser Cys Ile Ile Thr Ala Lys Leu Cys		
275	280	285
Thr Trp Ala Ile Cys Phe Leu Thr Thr Ser Glu Glu Val Gln Lys		
290	295	300
Lys Leu Tyr Glu Glu Ile Asn Gln Val Phe Gly Asn Gly Pro Val		
305	310	315
Thr Pro Glu Lys Ile Glu Gln Leu Arg Tyr Cys Gln His Val Leu		
320	325	330
Cys Glu Thr Val Arg Thr Ala Lys Leu Thr Pro Val Ser Ala Gln		
335	340	345
Leu Gln Asp Ile Glu Gly Lys Ile Asp Arg Phe Ile Ile Pro Arg		
350	355	360
Glu Thr Leu Val Leu Tyr Ala Leu Gly Val Val Leu Gln Asp Pro		
365	370	375
Asn Thr Trp Pro Ser Pro His Lys Phe Asp Pro Asp Arg Phe Asp		
380	385	390
Asp Glu Leu Val Met Lys Thr Phe Ser Ser Leu Gly Phe Ser Gly		
395	400	405
Thr Gln Glu Cys Pro Glu Leu Arg Phe Ala Tyr Met Val Thr Thr		
410	415	420
Val Leu Leu Ser Val Leu Val Lys Arg Leu His Leu Leu Ser Val		
425	430	435
Glu Gly Gln Val Ile Glu Thr Lys Tyr Glu Leu Val Thr Ser Ser		
440	445	450
Arg Glu Glu Ala Trp Ile Thr Val Ser Lys Arg Tyr		
455	460	

<210> 213

<211> 759

<212> DNA

<213> Homo sapiens



<400> 213

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tcagggttg tgccctctcg ctctctgacg ctcttggcgc atctggtggt 150  
cgctcatcacc ttattctggt cccgggacag caacatacag gcctgcctgc 200  
ctctcacgtt cacccccag gagtatgaca agcaggacat tcagctggtg 250  
gccgcgtct ctgtaccct gggcctctt gcagtggagc tggccggtt 300  
cctctcagga gtctccatgt tcaacagcac ccagagctc atctccattg 350  
gggtcactg tagtgcaccc gtggccctgt ccttctcat attcgagcgt 400  
tgggagtgca ctacgtattg gtacatttt gtctctgca gtgcccttc 450  
agctgtcact gaaatggctt tattctcac cgtcttggg ctgaaaaaga 500  
aaccctctg attaccttca tgacgggaac ctaaggacga agcctacagg 550  
ggcaagggcc gcttcgtatt cctggaagaa ggaaggcata ggcttcggtt 600  
ttccctcgg aaactgcttc tgctggagga tatgtgttg aataattacg 650  
tcttgagtct gggattatcc gcattgtatt tagtgcttg taataaata 700  
tgtttttag taacattaag acttatatac agtttaggg gacaattaaa 750  
aaaaaaaa 759

<210> 214

<211> 140

<212> PRT

<213> Homo sapiens

<400> 214

Met	Gly	Arg	Val	Ser	Gly	Leu	Val	Pro	Ser	Arg	Phe	Leu	Thr	Leu
1			5			10			15					
Leu	Ala	His	Leu	Val	Val	Val	Ile	Thr	Leu	Phe	Trp	Ser	Arg	Asp
		20			25			30						

Ser Asn Ile Gln Ala Cys Leu Pro Leu Thr Phe Thr Pro Glu Glu  
35 40 45

Tyr Asp Lys Gln Asp Ile Gln Leu Val Ala Ala Leu Ser Val Thr  
50 55 60

Leu Gly Leu Phe Ala Val Glu Leu Ala Gly Phe Leu Ser Gly Val  
65 70 75

Ser Met Phe Asn Ser Thr Gln Ser Leu Ile Ser Ile Gly Ala His  
80 85 90

Cys Ser Ala Ser Val Ala Leu Ser Phe Phe Ile Phe Glu Arg Trp  
95 100 105

Glu Cys Thr Thr Tyr Trp Tyr Ile Phe Val Phe Cys Ser Ala Leu  
110 115 120

Pro Ala Val Thr Glu Met Ala Leu Phe Val Thr Val Phe Gly Leu  
125 130 135

Lys Lys Lys Pro Phe  
140

<210> 215

<211> 697

<212> DNA

<213> Homo sapiens

<400> 215

tcccggaccc tgccgcctg ccactatgtc ccgccgtct atgtgtcttg 50

cctgggtctt cccagcctc ctgcactcg gagcggctca ggagacagaa 100

gacccggcct gctgcagccc catagtcccc cggaacgagt ggaaggccct 150

ggcatcagag tgcgccagc acctgagcct gcccttacgc tatgtggtgg 200

tatgcacac ggcgggcagc agctgcaaca ccccgccctc gtgccagcag 250

caggcccgga atgtgcagca ctaccacatg aagacactgg gctggtgcga 300

cgtgggtctc aacttctga ttggagaaga cgggctcgta tacgagggcc 350

gtggctggaa cttcacgggt gccactcag gtcacttatg gaaccccatg 400

tccattggca tcagcttcat gggcaactac atggatcggg tgcccacacc 450  
 ccaggccatc cgggcagccc aggtgtact ggcctgcggt gtggctcagg 500  
 gagccctgag gtccaactat gtgctcaaag gacaccggga tgtgcagcgt 550  
 acactctctc caggcaacca gctctaccac ctcatccaga attggccaca 600  
 ctaccgetcc ccctgaggcc ctgctgatcc gcacccatt cctcccctcc 650  
 catggcctaaa aacccactg tctccttctc caataaagat gtagctc 697

<210> 216

<211> 196

<212> PRT

<213> Homo sapiens

<400> 216

Met Ser Arg Arg Ser Met Leu Leu Ala Trp Ala Leu Pro Ser Leu  
 1 5 10 15

Leu Arg Leu Gly Ala Ala Gln Glu Thr Glu Asp Pro Ala Cys Cys  
 20 25 30

Ser Pro Ile Val Pro Arg Asn Glu Trp Lys Ala Leu Ala Ser Glu  
 35 40 45

Cys Ala Gln His Leu Ser Leu Pro Leu Arg Tyr Val Val Val Ser  
 50 55 60

His Thr Ala Gly Ser Ser Cys Asn Thr Pro Ala Ser Cys Gln Gln  
 65 70 75

Gln Ala Arg Asn Val Gln His Tyr His Met Lys Thr Leu Gly Trp  
 80 85 90

Cys Asp Val Gly Tyr Asn Phe Leu Ile Gly Glu Asp Gly Leu Val  
 95 100 105

Tyr Glu Gly Arg Gly Trp Asn Phe Thr Gly Ala His Ser Gly His  
 110 115 120

Leu Trp Asn Pro Met Ser Ile Gly Ile Ser Phe Met Gly Asn Tyr  
 125 130 135

Met Asp Arg Val Pro Thr Pro Gln Ala Ile Arg Ala Ala Gln Gly  
140 145 150

Leu Leu Ala Cys Gly Val Ala Gln Gly Ala Leu Arg Ser Asn Tyr  
155 160 165

Val Leu Lys Gly His Arg Asp Val Gln Arg Thr Leu Ser Pro Gly  
170 175 180

Asn Gln Leu Tyr His Leu Ile Gln Asn Trp Pro His Tyr Arg Ser  
185 190 195

Pro

<210> 217

<211> 1871

<212> DNA

<213> Homo sapiens

<400> 217

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tctatctggt catctgtggc caggatgatg gtcctcccgg ctcagaggac 150

cctgagcgtg atgaccacga gggccagccc cggccccggg tgcctcggaa 200

gcggggccac atctcaccta agtcccggcc catggccaat tccactctcc 250

tagggctgct ggccccgcct ggggaggctt ggggcattct tgggcagccc 300

cccaaccgcc cgaaccacag cccccaccc tcagccaagg tgaagaaaat 350

ctttggctgg ggcgacttct actccaacat caagacggtg gccctgaacc 400

tgtctgtcac aggggaagatt gtggaccatg gcaatgggac cttcagcgtc 450

cacttccaac acaatgccac aggccaggga aacatctcca tcagcctcgt 500

gccccccagt aaagctgtag agttccacca ggaacagcag atcttcacg 550

aagccaaggc ctccaaaatc ttcaactgcc ggatggagtg ggagaaggta 600

gaacggggcc gccggacctc gctttgcacc cacgacccag ccaagatctg 650  
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tcaaagtcgt ctgtgtctac atgccttct acagcacgga ctatcggtg 750  
gtccagaagg tgtgccaga ttacaactac catagtata cccctacta 800  
cccatctggg tgacccgggg caggccacag aggccaggcc agggctggaa 850  
ggacaggcct gccatgcag gagaccatct ggacaccggg cagggaagg 900  
gttgggcctc aggcaggag ggggtggag acgaggagat gccaagtgg 950  
gccaggcca agtctcaagt ggcagagaaa gggccaag tgctgtccc 1000  
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tggtctgtgt gtctgtctgt gggtgggggg aggggaggga agtcttgtga 1800

aaccgtgat tgctgacttt tgtgtgaaga atcgtgttct tggagcagga 1850

aataaagctt gccccggggc a 1871

<210> 218

<211> 252

<212> PRT

<213> Homo sapiens

<400> 218

Met Gln Leu Thr Arg Cys Cys Phe Val Phe Leu Val Gln Gly Ser

1 5 10 15

Leu Tyr Leu Val Ile Cys Gly Gln Asp Asp Gly Pro Pro Gly Ser

20 25 30

Glu Asp Pro Glu Arg Asp Asp His Glu Gly Gln Pro Arg Pro Arg

35 40 45

Val Pro Arg Lys Arg Gly His Ile Ser Pro Lys Ser Arg Pro Met

50 55 60

Ala Asn Ser Thr Leu Leu Gly Leu Leu Ala Pro Pro Gly Glu Ala

65 70 75

Trp Gly Ile Leu Gly Gln Pro Pro Asn Arg Pro Asn His Ser Pro

80 85 90

Pro Pro Ser Ala Lys Val Lys Lys Ile Phe Gly Trp Gly Asp Phe

95 100 105

Tyr Ser Asn Ile Lys Thr Val Ala Leu Asn Leu Leu Val Thr Gly

110 115 120

Lys Ile Val Asp His Gly Asn Gly Thr Phe Ser Val His Phe Gln

125 130 135

His Asn Ala Thr Gly Gln Gly Asn Ile Ser Ile Ser Leu Val Pro

140 145 150

Pro Ser Lys Ala Val Glu Phe His Gln Glu Gln Gln Ile Phe Ile

155 160 165

Glu Ala Lys Ala Ser Lys Ile Phe Asn Cys Arg Met Glu Trp Glu  
170 175 180

Lys Val Glu Arg Gly Arg Arg Thr Ser Leu Cys Thr His Asp Pro  
185 190 195

Ala Lys Ile Cys Ser Arg Asp His Ala Gln Ser Ser Ala Thr Trp  
200 205 210

Ser Cys Ser Gln Pro Phe Lys Val Val Cys Val Tyr Ile Ala Phe  
215 220 225

Tyr Ser Thr Asp Tyr Arg Leu Val Gln Lys Val Cys Pro Asp Tyr  
230 235 240

Asn Tyr His Ser Asp Thr Pro Tyr Tyr Pro Ser Gly  
245 250

<210> 219

<211> 2065

<212> DNA

<213> Homo sapiens

<400> 219

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gggttctgca tgagctcctt aaaggacaaa ggtaacagag ccagcgagag 150

agctcgaggg gagacttga ctcaagcca cagaattggt ggaagtgtgc 200

gcgccgccgc cgccgtcgt cctgcagcgc tctcgaccta gccgctagca 250

tcttcccgag caccgggatc ccggggtagg aggcgacgcg ggcgagcacc 300

agcgccagcc ggctgcggct gccacacgg ctaccatgg gtcggggcg 350

ccgggcgctg tccgcgggtgc cgccgtgct gctggtcctc acgctgccgg 400

ggctgcccgt ctgggcacag aacgacacgg agcccatcgt gctggagggc 450

aagtgtctgg tgggtgtgca ctgaacccg gccacggact ccaagggtc 500

ctctctctcc ccgtgggga tatcggtccg ggcggccaac tccaaggtcg 550

ccttctcggc ggtgcggagc accaaccacg agccatccga gatgagcaac 600  
aagacgcgca tcatttactt cgtacagatc ctggtgaatg tgggtaattt 650  
tttcacattg gagtctgtct ttgtagcacc aagaaaagga atttacagtt 700  
tcagttttca cgtgattaaa gtctaccaga gccaaactat ccaggttaac 750  
ttgatgttaa atggaaaacc agtaatatct gcctttgcgg gggacaaaaga 800  
tgttactcgt gaagctgccca cgaatgggtgt cctgctctac ctagataaag 850  
aggataaggt ttacctaaaa ctggagaaaag gtaatttggg tggaggctgg 900  
cagtattcca cgttttctgg ctttctgggt ttccccctat aggattcaat 950  
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gaagatcatt ttttcatcat tggattgatg tcttttattg gtttctcatg 1050  
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ccaagttata ttttctaaga agaagaatag atcataaatc tgacaaggaa 1650  
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cagctcccct ccgagggaat tcttatactt tattgctcaa ctttaattaa 1750

aatgattgat aataaccact ttattaaaaa cctaagggtt ttttttttc 1800

cgtagacatg accactttat taactggtgg tgggatgctg ttgtttctaa 1850

ttatacctat tttcaaggc ttcigtgtga ttgaagtat catctggtt 1900

tgccttaact ctttaaattg tatatattta tctgtttagc taatattaaa 1950

ttcaaatac ccatacttaa atttagtgca atatctgtc tttgtatag 2000

gtcatatgaa ttcataaat tatttatgtc tgttatagaa taaagattaa 2050

tatatgttaa aaaaa 2065

<210> 220

<211> 201

<212> PRT

<213> Homo sapiens

<400> 220

Met Gly Ser Gly Arg Arg Ala Leu Ser Ala Val Pro Ala Val Leu

1 5 10 15

Leu Val Leu Thr Leu Pro Gly Leu Pro Val Trp Ala Gln Asn Asp

20 25 30

Thr Glu Pro Ile Val Leu Glu Gly Lys Cys Leu Val Val Cys Asp

35 40 45

Ser Asn Pro Ala Thr Asp Ser Lys Gly Ser Ser Ser Ser Pro Leu

50 55 60

Gly Ile Ser Val Arg Ala Ala Asn Ser Lys Val Ala Phe Ser Ala

65 70 75

Val Arg Ser Thr Asn His Glu Pro Ser Glu Met Ser Asn Lys Thr

80 85 90

Arg Ile Ile Tyr Phe Asp Gln Ile Leu Val Asn Val Gly Asn Phe

95 100 105

Phe Thr Leu Glu Ser Val Phe Val Ala Pro Arg Lys Gly Ile Tyr

110 115 120

Ser Phe Ser Phe His Val Ile Lys Val Tyr Gln Ser Gln Thr Ile  
125 130 135

Gln Val Asn Leu Met Leu Asn Gly Lys Pro Val Ile Ser Ala Phe  
140 145 150

Ala Gly Asp Lys Asp Val Thr Arg Glu Ala Ala Thr Asn Gly Val  
155 160 165

Leu Leu Tyr Leu Asp Lys Glu Asp Lys Val Tyr Leu Lys Leu Glu  
170 175 180

Lys Gly Asn Leu Val Gly Gly Trp Gln Tyr Ser Thr Phe Ser Gly  
185 190 195

Phe Leu Val Phe Pro Leu  
200

<210> 221

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 221

acggctcacc atgggctccg 20

<210> 222

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 222

aggaagagga gcccttggag tccg 24

<210> 223

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 223

cgtgctggag ggcaagtgc tgggtgtg cgactcgaac 40

<210> 224

<211> 902

<212> DNA

<213> Homo sapiens

<400> 224

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gggcctgcgc tcgccctta tgtctcacc atcgccatcg agccgttgcg 100

tatcatcttc ctcatgcgc gagcttctt ctggttggtg tctctactga 150

tttcgtccct tgttggttc atggcaagag tcattattga caacaagat 200

ggaccaacac agaaatatct gctgatcttt ggagcgttg tctctgtcta 250

tatccaagaa atgttccgat ttgcatatta taaactctta aaaaaagcca 300

gtgaaggttt gaagagtata aaccaggtg agacagcacc ctctatgcga 350

ctgctggcct atgtttctgg ctgggcttt ggaatcatga gtggagtatt 400

ttcctttgtg aatacctat ctgactcctt ggggccagc acagtgggca 450

ttcatggaga ttctctcaa ttctcctt attcagctt catgacgctg 500

gtcattatct tctgcatgt attctgggc attgtattt ttgatggctg 550

tgagaagaaa aagtgggca tctccttat cgttctctg acccacctgc 600

tgggtgcagc ccagaccttc ataagttctt attatggaat aaacctggcg 650

tcagcattta taatcctggt gctcatgggc acctgggcat tcttagctgc 700

gggaggcagc tgccaagcc tgaaactctg cctgctctgc caagacaaga 750

actttcttct ttacaaccag cgtccagat aacctcagg aaccagcact 800

tcccaaaccg cagactacat ctttagagga agcacaactg tgccttttc 850

tgaaaatccc ttttctggt ggaattgaga aagaaataaa actatgcaga 900

ta 902

<210> 225

<211> 257

<212> PRT

<213> Homo sapiens

<400> 225

Met Thr Ala Ala Val Phe Phe Gly Cys Ala Phe Ile Ala Phe Gly

1 5 10 15

Pro Ala Leu Ala Leu Tyr Val Phe Thr Ile Ala Ile Glu Pro Leu

20 25 30

Arg Ile Ile Phe Leu Ile Ala Gly Ala Phe Phe Trp Leu Val Ser

35 40 45

Leu Leu Ile Ser Ser Leu Val Trp Phe Met Ala Arg Val Ile Ile

50 55 60

Asp Asn Lys Asp Gly Pro Thr Gln Lys Tyr Leu Leu Ile Phe Gly

65 70 75

Ala Phe Val Ser Val Tyr Ile Gln Glu Met Phe Arg Phe Ala Tyr

80 85 90

Tyr Lys Leu Leu Lys Lys Ala Ser Glu Gly Leu Lys Ser Ile Asn

95 100 105

Pro Gly Glu Thr Ala Pro Ser Met Arg Leu Leu Ala Tyr Val Ser

110 115 120

Gly Leu Gly Phe Gly Ile Met Ser Gly Val Phe Ser Phe Val Asn

125 130 135

Thr Leu Ser Asp Ser Leu Gly Pro Gly Thr Val Gly Ile His Gly

140 145 150

Asp Ser Pro Gln Phe Phe Leu Tyr Ser Ala Phe Met Thr Leu Val

155 160 165

Ile Ile Leu Leu His Val Phe Trp Gly Ile Val Phe Phe Asp Gly

170 175 180

Cys Glu Lys Lys Lys Trp Gly Ile Leu Leu Ile Val Leu Leu Thr  
185 190 195

His Leu Leu Val Ser Ala Gln Thr Phe Ile Ser Ser Tyr Tyr Gly  
200 205 210

Ile Asn Leu Ala Ser Ala Phe Ile Ile Leu Val Leu Met Gly Thr  
215 220 225

Trp Ala Phe Leu Ala Ala Gly Gly Ser Cys Arg Ser Leu Lys Leu  
230 235 240

Cys Leu Leu Cys Gln Asp Lys Asn Phe Leu Leu Tyr Asn Gln Arg  
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Ser Arg

<210> 226

<211> 3939

<212> DNA

<213> Homo sapiens

<400> 226

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agttgagcg cacctacgtg gacgaggtca acagcgagct ggtcaacatc 200

tacacctta accatactgt gacccgcaac aggacagagg gcgtgcgtgt 250

gtctgtgaac gtctgaaca agcagaaggg ggcgccgttg ctgtttgtgg 300

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gggatgttc agcgcaagta cctctacaa aaagtgaac gaacctgtg 400

tcagccccc accaagaatg agtcggagat tcagttcttc tacgtggatg 450

tgtccacct gtcaccagtc aacaccacat accagtcgg ggtcagccgc 500

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<211> 832

<212> PRT

<213> Homo sapiens

<400> 227

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Val Glu Ser His Leu Gly Val Leu Gly Pro Lys Asn Val Ser Gln  
20 25 30

Lys Asp Ala Glu Phe Glu Arg Thr Tyr Val Asp Glu Val Asn Ser  
35 40 45

Glu Leu Val Asn Ile Tyr Thr Phe Asn His Thr Val Thr Arg Asn  
50 55 60

Arg Thr Glu Gly Val Arg Val Ser Val Asn Val Leu Asn Lys Gln  
65 70 75

Lys Gly Ala Pro Leu Leu Phe Val Val Arg Gln Lys Glu Ala Val  
80 85 90

Val Ser Phe Gln Val Pro Leu Ile Leu Arg Gly Met Phe Gln Arg  
95 100 105

Lys Tyr Leu Tyr Gln Lys Val Glu Arg Thr Leu Cys Gln Pro Pro  
110 115 120

Thr Lys Asn Glu Ser Glu Ile Gln Phe Phe Tyr Val Asp Val Ser  
125 130 135

Thr Leu Ser Pro Val Asn Thr Thr Tyr Gln Leu Arg Val Ser Arg  
140 145 150

Met Asp Asp Phe Val Leu Arg Thr Gly Glu Gln Phe Ser Phe Asn  
155 160 165

Thr Thr Ala Ala Gln Pro Gln Tyr Phe Lys Tyr Glu Phe Pro Glu  
170 175 180

Gly Val Asp Ser Val Ile Val Lys Val Thr Ser Asn Lys Ala Phe  
185 190 195

Pro Cys Ser Val Ile Ser Ile Gln Asp Val Leu Cys Pro Val Tyr

200	205	210
Asp Leu Asp Asn Asn Val Ala Phe Ile Gly Met Tyr Gln Thr Met		
215	220	225
Thr Lys Lys Ala Ala Ile Thr Val Gln Arg Lys Asp Phe Pro Ser		
230	235	240
Asn Ser Phe Tyr Val Val Val Val Val Lys Thr Glu Asp Gln Ala		
245	250	255
Cys Gly Gly Ser Leu Pro Phe Tyr Pro Phe Ala Glu Asp Glu Pro		
260	265	270
Val Asp Gln Gly His Arg Gln Lys Thr Leu Ser Val Leu Val Ser		
275	280	285
Gln Ala Val Thr Ser Glu Ala Tyr Val Ser Gly Met Leu Phe Cys		
290	295	300
Leu Gly Ile Phe Leu Ser Phe Tyr Leu Leu Thr Val Leu Leu Ala		
305	310	315
Cys Trp Glu Asn Trp Arg Gln Lys Lys Lys Thr Leu Leu Val Ala		
320	325	330
Ile Asp Arg Ala Cys Pro Glu Ser Gly His Pro Arg Val Leu Ala		
335	340	345
Asp Ser Phe Pro Gly Ser Ser Pro Tyr Glu Gly Tyr Asn Tyr Gly		
350	355	360
Ser Phe Glu Asn Val Ser Gly Ser Thr Asp Gly Leu Val Asp Ser		
365	370	375
Ala Gly Thr Gly Asp Leu Ser Tyr Gly Tyr Gln Gly Arg Ser Phe		
380	385	390
Glu Pro Val Gly Thr Arg Pro Arg Val Asp Ser Met Ser Ser Val		
395	400	405
Glu Glu Asp Asp Tyr Asp Thr Leu Thr Asp Ile Asp Ser Asp Lys		
410	415	420
Asn Val Ile Arg Thr Lys Gln Tyr Leu Tyr Val Ala Asp Leu Ala		

425	430	435
Arg Lys Asp Lys Arg Val Leu Arg Lys Lys Tyr Gln Ile Tyr Phe		
440	445	450
Trp Asn Ile Ala Thr Ile Ala Val Phe Tyr Ala Leu Pro Val Val		
455	460	465
Gln Leu Val Ile Thr Tyr Gln Thr Val Val Asn Val Thr Gly Asn		
470	475	480
Gln Asp Ile Cys Tyr Tyr Asn Phe Leu Cys Ala His Pro Leu Gly		
485	490	495
Asn Leu Ser Ala Phe Asn Asn Ile Leu Ser Asn Leu Gly Tyr Ile		
500	505	510
Leu Leu Gly Leu Leu Phe Leu Leu Ile Ile Leu Gln Arg Glu Ile		
515	520	525
Asn His Asn Arg Ala Leu Leu Arg Asn Asp Leu Cys Ala Leu Glu		
530	535	540
Cys Gly Ile Pro Lys His Phe Gly Leu Phe Tyr Ala Met Gly Thr		
545	550	555
Ala Leu Met Met Glu Gly Leu Leu Ser Ala Cys Tyr His Val Cys		
560	565	570
Pro Asn Tyr Thr Asn Phe Gln Phe Asp Thr Ser Phe Met Tyr Met		
575	580	585
Ile Ala Gly Leu Cys Met Leu Lys Leu Tyr Gln Lys Arg His Pro		
590	595	600
Asp Ile Asn Ala Ser Ala Tyr Ser Ala Tyr Ala Cys Leu Ala Ile		
605	610	615
Val Ile Phe Phe Ser Val Leu Gly Val Val Phe Gly Lys Gly Asn		
620	625	630
Thr Ala Phe Trp Ile Val Phe Ser Ile Ile His Ile Ile Ala Thr		
635	640	645
Leu Leu Leu Ser Thr Gln Leu Tyr Tyr Met Gly Arg Trp Lys Leu		

650	655	660
Asp Ser Gly Ile Phe Arg Arg Ile Leu His Val Leu Tyr Thr Asp		
665	670	675
Cys Ile Arg Gln Cys Ser Gly Pro Leu Tyr Val Asp Arg Met Val		
680	685	690
Leu Leu Val Met Gly Asn Val Ile Asn Trp Ser Leu Ala Ala Tyr		
695	700	705
Gly Leu Ile Met Arg Pro Asn Asp Phe Ala Ser Tyr Leu Leu Ala		
710	715	720
Ile Gly Ile Cys Asn Leu Leu Leu Tyr Phe Ala Phe Tyr Ile Ile		
725	730	735
Met Lys Leu Arg Ser Gly Glu Arg Ile Lys Leu Ile Pro Leu Leu		
740	745	750
Cys Ile Val Cys Thr Ser Val Val Trp Gly Phe Ala Leu Phe Phe		
755	760	765
Phe Phe Gln Gly Leu Ser Thr Trp Gln Lys Thr Pro Ala Glu Ser		
770	775	780
Arg Glu His Asn Arg Asp Cys Ile Leu Leu Asp Phe Phe Asp Asp		
785	790	795
His Asp Ile Trp His Phe Leu Ser Ser Ile Ala Met Phe Gly Ser		
800	805	810
Phe Leu Val Leu Leu Thr Leu Asp Asp Asp Leu Asp Thr Val Gln		
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Arg Asp Lys Ile Tyr Val Phe		
830		

<210> 228

<211> 2848

<212> DNA

<213> Homo sapiens

<400> 228

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<210> 229

<211> 807

<212> PRT

<213> Homo sapiens

<400> 229

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 20 25 30

Glu Asn Tyr Gly Gly Asn Phe Pro Leu Tyr Leu Thr Lys Leu Pro  
 35 40 45

Leu Pro Arg Glu Gly Ala Glu Gly Gln Ile Val Leu Ser Gly Asp  
 50 55 60

Ser Gly Lys Ala Thr Glu Gly Pro Phe Ala Met Asp Pro Asp Ser  
 65 70 75

Gly Phe Leu Leu Val Thr Arg Ala Leu Asp Arg Glu Glu Gln Ala  
 80 85 90

Glu Tyr Gln Leu Gln Val Thr Leu Glu Met Gln Asp Gly His Val

95	100	105
Leu Trp Gly Pro Gln Pro Val Leu Val His Val Lys Asp Glu Asn		
110	115	120
Asp Gln Val Pro His Phe Ser Gln Ala Ile Tyr Arg Ala Arg Leu		
125	130	135
Ser Arg Gly Thr Arg Pro Gly Ile Pro Phe Leu Phe Leu Glu Ala		
140	145	150
Ser Asp Arg Asp Glu Pro Gly Thr Ala Asn Ser Asp Leu Arg Phe		
155	160	165
His Ile Leu Ser Gln Ala Pro Ala Gln Pro Ser Pro Asp Met Phe		
170	175	180
Gln Leu Glu Pro Arg Leu Gly Ala Leu Ala Leu Ser Pro Lys Gly		
185	190	195
Ser Thr Ser Leu Asp His Ala Leu Glu Arg Thr Tyr Gln Leu Leu		
200	205	210
Val Gln Val Lys Asp Met Gly Asp Gln Ala Ser Gly His Gln Ala		
215	220	225
Thr Ala Thr Val Glu Val Ser Ile Ile Glu Ser Thr Trp Val Ser		
230	235	240
Leu Glu Pro Ile His Leu Ala Glu Asn Leu Lys Val Leu Tyr Pro		
245	250	255
His His Met Ala Gln Val His Trp Ser Gly Gly Asp Val His Tyr		
260	265	270
His Leu Glu Ser His Pro Pro Gly Pro Phe Glu Val Asn Ala Glu		
275	280	285
Gly Asn Leu Tyr Val Thr Arg Glu Leu Asp Arg Glu Ala Gln Ala		
290	295	300
Glu Tyr Leu Leu Gln Val Arg Ala Gln Asn Ser His Gly Glu Asp		
305	310	315
Tyr Ala Ala Pro Leu Glu Leu His Val Leu Val Met Asp Glu Asn		



320	325	330
Asp Asn Val Pro Ile Cys Pro Pro Arg Asp Pro Thr Val Ser Ile		
335	340	345
Pro Glu Leu Ser Pro Pro Gly Thr Glu Val Thr Arg Leu Ser Ala		
350	355	360
Glu Asp Ala Asp Ala Pro Gly Ser Pro Asn Ser His Val Val Tyr		
365	370	375
Gln Leu Leu Ser Pro Glu Pro Glu Asp Gly Val Glu Gly Arg Ala		
380	385	390
Phe Gln Val Asp Pro Thr Ser Gly Ser Val Thr Leu Gly Val Leu		
395	400	405
Pro Leu Arg Ala Gly Gln Asn Ile Leu Leu Leu Val Leu Ala Met		
410	415	420
Asp Leu Ala Gly Ala Glu Gly Gly Phe Ser Ser Thr Cys Glu Val		
425	430	435
Glu Val Ala Val Thr Asp Ile Asn Asp His Ala Pro Glu Phe Ile		
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Thr Ser Gln Ile Gly Pro Ile Ser Leu Pro Glu Asp Val Glu Pro		
455	460	465
Gly Thr Leu Val Ala Met Leu Thr Ala Ile Asp Ala Asp Leu Glu		
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Pro Ala Phe Arg Leu Met Asp Phe Ala Ile Glu Arg Gly Asp Thr		
485	490	495
Glu Gly Thr Phe Gly Leu Asp Trp Glu Pro Asp Ser Gly His Val		
500	505	510
Arg Leu Arg Leu Cys Lys Asn Leu Ser Tyr Glu Ala Ala Pro Ser		
515	520	525
His Glu Val Val Val Val Val Gln Ser Val Ala Lys Leu Val Gly		
530	535	540
Pro Gly Pro Gly Pro Gly Ala Thr Ala Thr Val Thr Val Leu Val		

545	550	555
Glu Arg Val Met Pro Pro Pro Lys Leu Asp Gln Glu Ser Tyr Glu		
560	565	570
Ala Ser Val Pro Ile Ser Ala Pro Ala Gly Ser Phe Leu Leu Thr		
575	580	585
Ile Gln Pro Ser Asp Pro Ile Ser Arg Thr Leu Arg Phe Ser Leu		
590	595	600
Val Asn Asp Ser Glu Gly Trp Leu Cys Ile Glu Lys Phe Ser Gly		
605	610	615
Glu Val His Thr Ala Gln Ser Leu Gln Gly Ala Gln Pro Gly Asp		
620	625	630
Thr Tyr Thr Val Leu Val Glu Ala Gln Asp Thr Ala Leu Thr Leu		
635	640	645
Ala Pro Val Pro Ser Gln Tyr Leu Cys Thr Pro Arg Gln Asp His		
650	655	660
Gly Leu Ile Val Ser Gly Pro Ser Lys Asp Pro Asp Leu Ala Ser		
665	670	675
Gly His Gly Pro Tyr Ser Phe Thr Leu Gly Pro Asn Pro Thr Val		
680	685	690
Gln Arg Asp Trp Arg Leu Gln Thr Leu Asn Gly Ser His Ala Tyr		
695	700	705
Leu Thr Leu Ala Leu His Trp Val Glu Pro Arg Glu His Ile Ile		
710	715	720
Pro Val Val Val Ser His Asn Ala Gln Met Trp Gln Leu Leu Val		
725	730	735
Arg Val Ile Val Cys Arg Cys Asn Val Glu Gly Gln Cys Met Arg		
740	745	750
Lys Val Gly Arg Met Lys Gly Met Pro Thr Lys Leu Ser Ala Val		
755	760	765
Gly Ile Leu Val Gly Thr Leu Val Ala Ile Gly Ile Phe Leu Ile		

770 775 780

Leu Ile Phe Thr His Trp Thr Met Ser Arg Lys Lys Asp Pro Asp  
785 790 795

Gln Pro Ala Asp Ser Val Pro Leu Lys Ala Thr Val  
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<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 230

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<210> 231

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 231

cctgagctgt aaccccactc cagg 24

<210> 232

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 232

agagtctgtc ccagctatct tgt 23

<210> 233

<211> 2786

<212> DNA

<213> Homo sapiens

<400> 233

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acttgaagct caatttctgg aaatctccct cctccttcaa tcggcctgtg 200  
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atctaaattg caggatgggtg aaattatccc catctgtcct aatgggctta 2350

cctcctcttt gccttttgaa ctcaattcaa agatctaggc ctcatcttac 2400

aggctctaaa tcactcatct ggccctggata atctactgc cctggcacat 2450

tcccatttgt gctgtgggtg atcctgtgtt tcctgtcct ggtttgtgtg 2500

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tgttgttgtt ttgttttgt tttttgctt ttaccaaaca tgtctgtaa 2700

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ccaataaata ttcaatgtga aaaaaaaaaa aaaaaa 2786

<210> 234

<211> 421

<212> PRT

<213> Homo sapiens

<400> 234

Met Arg Trp Ile Leu Phe Ile Gly Ala Leu Ile Gly Ser Ser Ile

1 5 10 15

Cys Gly Gln Glu Lys Phe Phe Gly Asp Gln Val Leu Arg Ile Asn

20 25 30

Val Arg Asn Gly Asp Glu Ile Ser Lys Leu Ser Gln Leu Val Asn

35 40 45

Ser Asn Asn Leu Lys Leu Asn Phe Trp Lys Ser Pro Ser Ser Phe

50 55 60

Asn Arg Pro Val Asp Val Leu Val Pro Ser Val Ser Leu Gln Ala

65 70 75

Phe Lys Ser Phe Leu Arg Ser Gln Gly Leu Glu Tyr Ala Val Thr

80 85 90

Ile Glu Asp Leu Gln Ala Leu Leu Asp Asn Glu Asp Asp Glu Met  
95 100 105

Gln His Asn Glu Gly Gln Glu Arg Ser Ser Asn Asn Phe Asn Tyr  
110 115 120

Gly Ala Tyr His Ser Leu Glu Ala Ile Tyr His Glu Met Asp Asn  
125 130 135

Ile Ala Ala Asp Phe Pro Asp Leu Ala Arg Arg Val Lys Ile Gly  
140 145 150

His Ser Phe Glu Asn Arg Pro Met Tyr Val Leu Lys Phe Ser Thr  
155 160 165

Gly Lys Gly Val Arg Arg Pro Ala Val Trp Leu Asn Ala Gly Ile  
170 175 180

His Ser Arg Glu Trp Ile Ser Gln Ala Thr Ala Ile Trp Thr Ala  
185 190 195

Arg Lys Ile Val Ser Asp Tyr Gln Arg Asp Pro Ala Ile Thr Ser  
200 205 210

Ile Leu Glu Lys Met Asp Ile Phe Leu Leu Pro Val Ala Asn Pro  
215 220 225

Asp Gly Tyr Val Tyr Thr Gln Thr Gln Asn Arg Leu Trp Arg Lys  
230 235 240

Thr Arg Ser Arg Asn Pro Gly Ser Ser Cys Ile Gly Ala Asp Pro  
245 250 255

Asn Arg Asn Trp Asn Ala Ser Phe Ala Gly Lys Gly Ala Ser Asp  
260 265 270

Asn Pro Cys Ser Glu Val Tyr His Gly Pro His Ala Asn Ser Glu  
275 280 285

Val Glu Val Lys Ser Val Val Asp Phe Ile Gln Lys His Gly Asn  
290 295 300

Phe Lys Gly Phe Ile Asp Leu His Ser Tyr Ser Gln Leu Leu Met  
305 310 315

Tyr Pro Tyr Gly Tyr Ser Val Lys Lys Ala Pro Asp Ala Glu Glu  
320 325 330

Leu Asp Lys Val Ala Arg Leu Ala Ala Lys Ala Leu Ala Ser Val  
335 340 345

Ser Gly Thr Glu Tyr Gln Val Gly Pro Thr Cys Thr Thr Val Tyr  
350 355 360

Pro Ala Ser Gly Ser Ser Ile Asp Trp Ala Tyr Asp Asn Gly Ile  
365 370 375

Lys Phe Ala Phe Thr Phe Glu Leu Arg Asp Thr Gly Thr Tyr Gly  
380 385 390

Phe Leu Leu Pro Ala Asn Gln Ile Ile Pro Thr Ala Glu Glu Thr  
395 400 405

Trp Leu Gly Leu Lys Thr Ile Met Glu His Val Arg Asp Asn Leu  
410 415 420

Tyr

<210> 235

<211> 1743

<212> DNA

<213> Homo sapiens

<400> 235

caaccatgca aggacagggc aggagaagag gaacctgcaa agacatattt 50

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cccgcccttc ctccacaaag agcaccctg cctcacaggt gtattccctc 200

aacaccgact ttgccttcg cctataccgc aggctggttt tggagacccc 250

gagtcagaac atctttctct cccctgtgag tgtctccact tccctggcca 300

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ctgggcttca acctcacaca cacaccagag tctgcatcc accagggtt 400



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aaatacgcca acccaggta ggcacctcta tgcagaatt acaataacac 1650

attcaataaa actaaaatat gaattcaaaa aaaaaaaaaa aaaaaaaaaa 1700

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 1743

<210> 236

<211> 417

<212> PRT

<213> Homo sapiens

<400> 236

Met Ala Ser Tyr Leu Tyr Gly Val Leu Phe Ala Val Gly Leu Cys

1 5 10 15

Ala Pro Ile Tyr Cys Val Ser Pro Ala Asn Ala Pro Ser Ala Tyr

20 25 30

Pro Arg Pro Ser Ser Thr Lys Ser Thr Pro Ala Ser Gln Val Tyr

35 40 45

Ser Leu Asn Thr Asp Phe Ala Phe Arg Leu Tyr Arg Arg Leu Val

50 55 60

Leu Glu Thr Pro Ser Gln Asn Ile Phe Phe Ser Pro Val Ser Val

65 70 75

Ser Thr Ser Leu Ala Met Leu Ser Leu Gly Ala His Ser Val Thr

80 85 90

Lys Thr Gln Ile Leu Gln Gly Leu Gly Phe Asn Leu Thr His Thr

95 100 105

Pro Glu Ser Ala Ile His Gln Gly Phe Gln His Leu Val His Ser

110 115 120

Leu Thr Val Pro Ser Lys Asp Leu Thr Leu Lys Met Gly Ser Ala

125 130 135

Leu Phe Val Lys Lys Glu Leu Gln Leu Gln Ala Asn Phe Leu Gly

140 145 150

Asn Val Lys Arg Leu Tyr Glu Ala Glu Val Phe Ser Thr Asp Phe

155	160	165
Ser Asn Pro Ser Ile Ala Gln Ala Arg Ile Asn Ser His Val Lys		
170	175	180
Lys Lys Thr Gln Gly Lys Val Val Asp Ile Ile Gln Gly Leu Asp		
185	190	195
Leu Leu Thr Ala Met Val Leu Val Asn His Ile Phe Phe Lys Ala		
200	205	210
Lys Trp Glu Lys Pro Phe His Leu Glu Tyr Thr Arg Lys Asn Phe		
215	220	225
Pro Phe Leu Val Gly Glu Gln Val Thr Val Gln Val Pro Met Met		
230	235	240
His Gln Lys Glu Gln Phe Ala Phe Gly Val Asp Thr Glu Leu Asn		
245	250	255
Cys Phe Val Leu Gln Met Asp Tyr Lys Gly Asp Ala Val Ala Phe		
260	265	270
Phe Val Leu Pro Ser Lys Gly Lys Met Arg Gln Leu Glu Gln Ala		
275	280	285
Leu Ser Ala Arg Thr Leu Ile Lys Trp Ser His Ser Leu Gln Lys		
290	295	300
Arg Trp Ile Glu Val Phe Ile Pro Arg Phe Ser Ile Ser Ala Ser		
305	310	315
Tyr Asn Leu Glu Thr Ile Leu Pro Lys Met Gly Ile Gln Asn Ala		
320	325	330
Phe Asp Lys Asn Ala Asp Phe Ser Gly Ile Ala Lys Arg Asp Ser		
335	340	345
Leu Gln Val Ser Lys Ala Thr His Lys Ala Val Leu Asp Val Ser		
350	355	360
Glu Glu Gly Thr Glu Ala Thr Ala Ala Thr Thr Thr Lys Phe Ile		
365	370	375
Val Arg Ser Lys Asp Gly Pro Ser Tyr Phe Thr Val Ser Phe Asn		

380 385 390

Arg Thr Phe Leu Met Met Ile Thr Asn Lys Ala Thr Asp Gly Ile  
395 400 405

Leu Phe Leu Gly Lys Val Glu Asn Pro Thr Lys Ser  
410 415

<210> 237

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 237

caaccatgca aggacagggc agg 23

<210> 238

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 238

ctttgctgtt ggcctctgtg ctcccaacca tgcaaggaca gggcagg 47

<210> 239

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 239

tgactcgggg tctccaaaac cagc 24

<210> 240

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 240

ggtataggcg gaaggcaaag tcgg 24

<210> 241

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 241

ggcatcttac ctctatggag tactctttgc tgttggcctc tgtgtcc 48

<210> 242

<211> 2436

<212> DNA

<213> Homo sapiens

<400> 242

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agctgccac gcctgagtcc aagattcttc ccaggaacac aaacgtagga 100

gaccacgct cctggaagca ccagccttta tctcttcacc ttaagtc 150

ctttctcaag aatcctctgt tctttgccct ctaaagtctt ggtacatcta 200

ggacccaggc atcttgcttt ccagccacaa agagacagat gaagatgcag 250

aaaggaaatg ttctccttat gtttggctta ctattgcatt tagaagctgc 300

aacaaattcc aatgagacta gcacctctgc caacactgga tccagtgtga 350

tctccagtgg agccagcaca gccaccaact ctgggtccag tgtgacctcc 400

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 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2436

<210> 243

<211> 596

<212> PRT

<213> Homo sapiens

<400> 243

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Leu	His	Leu	Glu	Ala	Ala	Thr	Asn	Ser	Asn	Glu	Thr	Ser	Thr	Ser
		20			25			30						

Ala	Asn	Thr	Gly	Ser	Ser	Val	Ile	Ser	Ser	Gly	Ala	Ser	Thr	Ala
		35			40			45						

Thr Asn Ser Gly Ser Ser Val Thr Ser Ser Gly Val Ser Thr Ala  
50 55 60

Thr Ile Ser Gly Ser Ser Val Thr Ser Asn Gly Val Ser Ile Val  
65 70 75

Thr Asn Ser Glu Phe His Thr Thr Ser Ser Gly Ile Ser Thr Ala  
80 85 90

Thr Asn Ser Glu Phe Ser Thr Ala Ser Ser Gly Ile Ser Ile Ala  
95 100 105

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala  
110 115 120

Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Ser Thr Val  
125 130 135

Thr Asn Ser Gly Ser Ser Val Thr Ser Ser Gly Ala Ser Thr Ala  
140 145 150

Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arg Ala Ser Thr Ala  
155 160 165

Thr Asn Ser Glu Ser Ser Thr Leu Ser Ser Gly Ala Ser Thr Ala  
170 175 180

Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala  
185 190 195

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala  
200 205 210

Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Arg Ala Ser Thr Ala  
215 220 225

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala  
230 235 240

Thr Asn Ser Glu Ser Arg Thr Thr Ser Asn Gly Ala Gly Thr Ala  
245 250 255

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala  
260 265 270



Thr Asn Ser Asp Ser Ser Thr Val Ser Ser Gly Ala Ser Thr Ala  
275 280 285

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala  
290 295 300

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala  
305 310 315

Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Gly Ala Gly Thr Ala  
320 325 330

Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ile Ser Thr Val  
335 340 345

Thr Asn Ser Glu Ser Ser Thr Pro Ser Ser Gly Ala Asn Thr Ala  
350 355 360

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Asn Thr Ala  
365 370 375

Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ala Ser Thr Ala  
380 385 390

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Val Ser Thr Ala  
395 400 405

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Ser Thr Ala  
410 415 420

Thr Asn Ser Asp Ser Ser Thr Thr Ser Ser Glu Ala Ser Thr Ala  
425 430 435

Thr Asn Ser Glu Ser Ser Thr Val Ser Ser Gly Ile Ser Thr Val  
440 445 450

Thr Asn Ser Glu Ser Ser Thr Thr Ser Ser Gly Ala Asn Thr Ala  
455 460 465

Thr Asn Ser Gly Ser Ser Val Thr Ser Ala Gly Ser Gly Thr Ala  
470 475 480

Ala Leu Thr Gly Met His Thr Thr Ser His Ser Ala Ser Thr Ala  
485 490 495

Val Ser Glu Ala Lys Pro Gly Gly Ser Leu Val Pro Trp Glu Ile  
500 505 510

Phe Leu Ile Thr Leu Val Ser Val Val Ala Ala Val Gly Leu Phe  
515 520 525

Ala Gly Leu Phe Phe Cys Val Arg Asn Ser Leu Ser Leu Arg Asn  
530 535 540

Thr Phe Asn Thr Ala Val Tyr His Pro His Gly Leu Asn His Gly  
545 550 555

Leu Gly Pro Gly Pro Gly Gly Asn His Gly Ala Pro His Arg Pro  
560 565 570

Arg Trp Ser Pro Asn Trp Phe Trp Arg Arg Pro Val Ser Ser Ile  
575 580 585

Ala Met Glu Met Ser Gly Arg Asn Ser Gly Pro  
590 595

<210> 244

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 244

gaagcaccag cctttatctc ttcacc 26

<210> 245

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 245

gtcagagttg gtggctgtgc tagc 24

<210> 246

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 246

ggacccaggc atcttgcttt ccagccacaa agagacagat gaagatgc 48

<210> 247

<211> 957

<212> DNA

<213> Homo sapiens

<400> 247

gggagagagg ataatagca gcgtggcttc cctggctcct ctctgcatcc 50

ttcccgacct tccagcaat atgcatcttg cacgtctggt cggctcctgc 100

tccctccttc tgctactggg ggccctgtct ggatgggcgg ccagcgatga 150

ccccattgag aaggctattg aagggatcaa ccgagggctg agcaatgcag 200

agagagaggt gggcaaggcc ctggatggca tcaacagtgg aatcacgcat 250

gccggaaggg aagtggagaa ggttttcaac ggacttagca acatggggag 300

ccacaccggc aaggagtggg acaaaggcgt ccaggggctc aaccacggca 350

tggacaaggt tgcccatgag atcaaccatg gtattggaca agcaggaaag 400

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ctgggaagga agcagagaaa ctggccaag gggtaacca tgctgctgac 550

caggctggaa aggaagtgga gaagcttggc caaggtgccc accatgctgc 600

tggccaggcc gggaaggagc tgcagaatgc tcataatggg gtcaaccaag 650

ccagcaagga ggccaaccag ctgctgaatg gcaaccatca aagcgatct 700

tccagccatc aaggaggggc cacaaccag ccgttagcct ctggggcctc 750



Leu Gly Gln Gly Val Asn His Ala Ala Asp Gln Ala Gly Lys Glu  
155 160 165

Val Glu Lys Leu Gly Gln Gly Ala His His Ala Ala Gly Gln Ala  
170 175 180

Gly Lys Glu Leu Gln Asn Ala His Asn Gly Val Asn Gln Ala Ser  
185 190 195

Lys Glu Ala Asn Gln Leu Leu Asn Gly Asn His Gln Ser Gly Ser  
200 205 210

Ser Ser His Gln Gly Gly Ala Thr Thr Thr Pro Leu Ala Ser Gly  
215 220 225

Ala Ser Val Asn Thr Pro Phe Ile Asn Leu Pro Ala Leu Trp Arg  
230 235 240

Ser Val Ala Asn Ile Met Pro  
245

<210> 249

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 249

caatatgcat cttgcacgtc tgg 23

<210> 250

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 250

aagcttctct gcttcttttc ctgc 24

<210> 251

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 251

tgacccatt gagaagggtca ttgaagggat caaccgaggg ctg 43

<210> 252

<211> 3781

<212> DNA

<213> Homo sapiens

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<211> 837

<212> PRT

<213> Homo sapiens

<400> 253

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Leu	Leu	Leu	Leu	Gln	Pro	Pro	Pro	Pro	Thr	Trp	Ala	Leu	Ser
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Arg Phe Glu Ala Glu His Ile Ser Asn Tyr Thr Ala Leu Leu Leu  
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Ser Arg Asp Gly Arg Thr Leu Tyr Val Gly Ala Arg Glu Ala Leu  
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Phe Ala Leu Ser Ser Asn Leu Ser Phe Leu Pro Gly Gly Glu Tyr  
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Gln Glu Leu Leu Trp Gly Ala Asp Ala Glu Lys Lys Gln Gln Cys  
110 115 120

Ser Phe Lys Gly Lys Asp Pro Gln Arg Asp Cys Gln Asn Tyr Ile  
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Lys Ile Leu Leu Pro Leu Ser Gly Ser His Leu Phe Thr Cys Gly  
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Thr Ala Ala Phe Ser Pro Met Cys Thr Tyr Ile Asn Met Glu Asn  
155 160 165

Phe Thr Leu Ala Arg Asp Glu Lys Gly Asn Val Leu Leu Glu Asp  
170 175 180

Gly Lys Gly Arg Cys Pro Phe Asp Pro Asn Phe Lys Ser Thr Ala  
185 190 195

Leu Val Val Asp Gly Glu Leu Tyr Thr Gly Thr Val Ser Ser Phe  
200 205 210

Gln Gly Asn Asp Pro Ala Ile Ser Arg Ser Gln Ser Leu Arg Pro  
215 220 225

Thr Lys Thr Glu Ser Ser Leu Asn Trp Leu Gln Asp Pro Ala Phe  
230 235 240

Val Ala Ser Ala Tyr Ile Pro Glu Ser Leu Gly Ser Leu Gln Gly  
245 250 255

Asp Asp Asp Lys Ile Tyr Phe Phe Phe Ser Glu Thr Gly Gln Glu  
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Ser	Pro	Gln	Asp	Trp	Arg	Asp	Thr	Leu	Phe	Tyr	Gly	Val	Phe	Thr
335					340				345					
Ser	Gln	Trp	His	Arg	Gly	Thr	Thr	Glu	Gly	Ser	Ala	Val	Cys	Val
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Phe	Thr	Met	Lys	Asp	Val	Gln	Arg	Val	Phe	Ser	Gly	Leu	Tyr	Lys
365					370				375					
Glu	Val	Asn	Arg	Glu	Thr	Gln	Gln	Trp	Tyr	Thr	Val	Thr	His	Pro
380					385				390					
Val	Pro	Thr	Pro	Arg	Pro	Gly	Ala	Cys	Ile	Thr	Asn	Ser	Ala	Arg
395					400				405					
Glu	Arg	Lys	Ile	Asn	Ser	Ser	Leu	Gln	Leu	Pro	Asp	Arg	Val	Leu
410					415				420					
Asn	Phe	Leu	Lys	Asp	His	Phe	Leu	Met	Asp	Gly	Gln	Val	Arg	Ser
425					430				435					
Arg	Met	Leu	Leu	Leu	Gln	Pro	Gln	Ala	Arg	Tyr	Gln	Arg	Val	Ala
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Val	His	Arg	Val	Pro	Gly	Leu	His	His	Thr	Tyr	Asp	Val	Leu	Phe
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Gln Pro Val Gln Asn Leu Leu Leu Asp Thr His Arg Gly Leu Leu  
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Tyr Ala Ala Ser His Ser Gly Val Val Gln Val Pro Met Ala Asn  
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Cys Ser Leu Tyr Arg Ser Cys Gly Asp Cys Leu Leu Ala Arg Asp  
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Pro Tyr Cys Ala Trp Ser Gly Ser Ser Cys Lys His Val Ser Leu  
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Tyr Gln Pro Gln Leu Ala Thr Arg Pro Trp Ile Gln Asp Ile Glu  
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Gly Ala Ser Ala Lys Asp Leu Cys Ser Ala Ser Ser Val Val Ser  
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Pro Ser Phe Val Pro Thr Gly Glu Lys Pro Cys Glu Gln Val Gln  
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Asn Leu Ala Thr Arg Leu Trp Leu Arg Asn Gly Ala Pro Val Asn  
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665 670 675

Glu Asp Gly Val Ala Asp Gln Thr Asp Glu Gly Gly Ser Val Pro  
680 685 690

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Ala Ser Trp Gly Ala Asp Arg Ser Tyr Trp Lys Glu Phe Leu Val  
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<212> PRT

<213> Homo sapiens

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Glu Gly Cys Arg Ser Gly Gln Ala Ala Ala Ser Gln Ala Gly Gly  
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Ala Arg Gly Asp Ala Arg Gly Ala Gln Leu Trp Pro Pro Gly Ser  
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Asp Pro Asp Gly Gly Pro Arg Asp Arg Asn Phe Leu Phe Val Gly  
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Val Met Thr Ala Gln Lys Tyr Leu Gln Thr Arg Ala Val Ala Ala  
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Tyr Arg Thr Trp Ser Lys Thr Ile Pro Gly Lys Val Gln Phe Phe  
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Ser Ser Glu Gly Ser Asp Thr Ser Val Pro Ile Pro Val Val Pro  
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Leu Arg Gly Val Asp Asp Ser Tyr Pro Pro Gln Lys Lys Ser Phe  
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Trp Phe Met Arg Ala Asp Asp Asp Val Tyr Ile Lys Gly Asp Arg  
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Leu Gly Gln Thr Gly Leu Gly Thr Thr Glu Glu Met Gly Lys Leu

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Lys Cys Leu Arg Glu Met Tyr Thr Thr His Glu Asp Val Glu Val		
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His Ser Tyr Met Leu Ser Arg Lys Ile Ser Glu Leu Arg His Arg		
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Thr Ile Gln Leu His Arg Glu Ile Val Leu Met Ser Lys Tyr Ser		
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Asn Thr Glu Ile His Lys Glu Asp Leu Gln Leu Gly Ile Pro Pro		
350	355	360
Ser Phe Met Arg Phe Gln Pro Arg Gln Arg Glu Glu Ile Leu Glu		
365	370	375
Trp Glu Phe Leu Thr Gly Lys Tyr Leu Tyr Ser Ala Val Asp Gly		
380	385	390
Gln Pro Pro Arg Arg Gly Met Asp Ser Ala Gln Arg Glu Ala Leu		
395	400	405
Asp Asp Ile Val Met Gln Val Met Glu Met Ile Asn Ala Asn Ala		
410	415	420
Lys Thr Arg Gly Arg Ile Ile Asp Phe Lys Glu Ile Gln Tyr Gly		

425	430	435
Tyr Arg Arg Val Asn Pro Met Tyr Gly Ala Glu Tyr Ile Leu Asp		
440	445	450
Leu Leu Leu Leu Tyr Lys Lys His Lys Gly Lys Lys Met Thr Val		
455	460	465
Pro Val Arg Arg His Ala Tyr Leu Gln Gln Thr Phe Ser Lys Ile		
470	475	480
Gln Phe Val Glu His Glu Glu Leu Asp Ala Gln Glu Leu Ala Lys		
485	490	495
Arg Ile Asn Gln Glu Ser Gly Ser Leu Ser Phe Leu Ser Asn Ser		
500	505	510
Leu Lys Lys Leu Val Pro Phe Gln Leu Pro Gly Ser Lys Ser Glu		
515	520	525
His Lys Glu Pro Lys Asp Lys Lys Ile Asn Ile Leu Ile Pro Leu		
530	535	540
Ser Gly Arg Phe Asp Met Phe Val Arg Phe Met Gly Asn Phe Glu		
545	550	555
Lys Thr Cys Leu Ile Pro Asn Gln Asn Val Lys Leu Val Val Leu		
560	565	570
Leu Phe Asn Ser Asp Ser Asn Pro Asp Lys Ala Lys Gln Val Glu		
575	580	585
Leu Met Arg Asp Tyr Arg Ile Lys Tyr Pro Lys Ala Asp Met Gln		
590	595	600
Ile Leu Pro Val Ser Gly Glu Phe Ser Arg Ala Leu Ala Leu Glu		
605	610	615
Val Gly Ser Ser Gln Phe Asn Asn Glu Ser Leu Leu Phe Phe Cys		
620	625	630
Asp Val Asp Leu Val Phe Thr Thr Glu Phe Leu Gln Arg Cys Arg		
635	640	645
Ala Asn Thr Val Leu Gly Gln Gln Ile Tyr Phe Pro Ile Ile Phe		

650	655	660
Ser Gln Tyr Asp Pro Lys Ile Val Tyr Ser Gly Lys Val Pro Ser		
665	670	675
Asp Asn His Phe Ala Phe Thr Gln Lys Thr Gly Phe Trp Arg Asn		
680	685	690
Tyr Gly Phe Gly Ile Thr Cys Ile Tyr Lys Gly Asp Leu Val Arg		
695	700	705
Val Gly Gly Phe Asp Val Ser Ile Gln Gly Trp Gly Leu Glu Asp		
710	715	720
Val Asp Leu Phe Asn Lys Val Val Gln Ala Gly Leu Lys Thr Phe		
725	730	735
Arg Ser Gln Glu Val Gly Val Val His Val His His Pro Val Phe		
740	745	750
Cys Asp Pro Asn Leu Asp Pro Lys Gln Tyr Lys Met Cys Leu Gly		
755	760	765
Ser Lys Ala Ser Thr Tyr Gly Ser Thr Gln Gln Leu Ala Glu Met		
770	775	780
Trp Leu Glu Lys Asn Asp Pro Ser Tyr Ser Lys Ser Ser Asn Asn		
785	790	795
Asn Gly Ser Val Arg Thr Ala		
800		

<210> 261

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 261

gtgccactac ggggtgtgga cgac 24

<210> 262

<211> 24

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 262  
tcccatttct tccgtggtgc ccag 24

<210> 263  
<211> 46  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 263  
ccagaagaag tcctcatga tgctcaagta catgcacgac cactac 46

<210> 264  
<211> 1419  
<212> DNA  
<213> Homo sapiens

<400> 264  
ggacaaccgt tgctgggtgt cccagggcct gaggcaggac ggtactccgc 50  
tgacaccttc ccttcggcc ttgaggttcc cagcctgggtg gccccaggac 100  
gttcgggtcg catggcagag tgctacggac gacgcctatg aagcccttag 150  
tccttctagt tgcgctttt ctatggcctt cgtctgtgcc ggettatccg 200  
agcataactg tgacacctga tgaagagcaa aacttgaatc attatataca 250  
agttttagag aacctagtac gaagtgttcc ctctggggag ccaggtcgtg 300  
agaaaaaatc taactctcca aaacatgttt attctatagc atcaaaggga 350  
tcaaaattta aggagctagt tacacatgga gacgcttcaa ctgagaatga 400  
tgttttaacc aatcctatca gtgaagaaac tacaacttc cctacaggag 450  
gcttcacacc ggaaatagga aagaaaaaac acacggaaag tacccttcc 500

tggctgatca aaccaaacia tgtttccatt gttttgcatg cagaggaacc 550  
 ttatattgaa aatgaagagc cagagccaga gccggagcca gctgcaaaac 600  
 aaactgaggc accaagaatg ttgccagtgt ttactgaatc atctacaagt 650  
 ccatatgtta cctcatacaa gtcacctgtc accactttag ataagagcac 700  
 tggcattgag atctctacag aatcagaaga tgttcctcag ctctcaggtg 750  
 aaactgcgat agaaaaaccc gaagagtttg gaaagcacc agagagttgg 800  
 aataatgatg acattttgaa aaaaatttta gatattaatt cacaagtgc 850  
 acaggcactt cttagtgaac ccagcaaccc agcatataga gaagatattg 900  
 aagcctctaa agatcaccta aaacgaagcc ttgctctagc agcagcagca 950  
 gaacataaat taaaaacaat gtataagtcc cagttattgc cagtaggacg 1000  
 aacaagtaat aaaattgatg acatcgaaac tgttattaac atgctgtgta 1050  
 attctagatc taaactctat gaatatttag atattaaatg tgttcacca 1100  
 gagatgagag aaaaagctgc tacagtattc aatacattaa aaaatatgtg 1150  
 tagatcaagg agagtcacag ccttattaaa agtttattaa acaataatat 1200  
 aaaaatttta aacctacttg atattccata acaaagctga ttaagcaaa 1250  
 ctgcattttt tcacaggaga aataatcata ttcgtaattt caaaagttgt 1300  
 ataaaaatat ttctattgt agttcaaatg tgccaacatc ttatgtgtc 1350  
 atgtgttatg aacaattttc atatgcacta aaaacctaata taaaataaaa 1400  
 attttggttc aggaaaaaa 1419

<210> 265

<211> 350

<212> PRT

<213> Homo sapiens

<400> 265

Met Lys Pro Leu Val Leu Leu Val Ala Leu Leu Leu Trp Pro Ser



1	5	10	15
Ser Val Pro Ala Tyr Pro Ser Ile Thr Val Thr Pro Asp Glu Glu			
20	25	30	
Gln Asn Leu Asn His Tyr Ile Gln Val Leu Glu Asn Leu Val Arg			
35	40	45	
Ser Val Pro Ser Gly Glu Pro Gly Arg Glu Lys Lys Ser Asn Ser			
50	55	60	
Pro Lys His Val Tyr Ser Ile Ala Ser Lys Gly Ser Lys Phe Lys			
65	70	75	
Glu Leu Val Thr His Gly Asp Ala Ser Thr Glu Asn Asp Val Leu			
80	85	90	
Thr Asn Pro Ile Ser Glu Glu Thr Thr Thr Phe Pro Thr Gly Gly			
95	100	105	
Phe Thr Pro Glu Ile Gly Lys Lys Lys His Thr Glu Ser Thr Pro			
110	115	120	
Phe Trp Ser Ile Lys Pro Asn Asn Val Ser Ile Val Leu His Ala			
125	130	135	
Glu Glu Pro Tyr Ile Glu Asn Glu Glu Pro Glu Pro Glu Pro Glu			
140	145	150	
Pro Ala Ala Lys Gln Thr Glu Ala Pro Arg Met Leu Pro Val Val			
155	160	165	
Thr Glu Ser Ser Thr Ser Pro Tyr Val Thr Ser Tyr Lys Ser Pro			
170	175	180	
Val Thr Thr Leu Asp Lys Ser Thr Gly Ile Glu Ile Ser Thr Glu			
185	190	195	
Ser Glu Asp Val Pro Gln Leu Ser Gly Glu Thr Ala Ile Glu Lys			
200	205	210	
Pro Glu Glu Phe Gly Lys His Pro Glu Ser Trp Asn Asn Asp Asp			
215	220	225	
Ile Leu Lys Lys Ile Leu Asp Ile Asn Ser Gln Val Gln Gln Ala			

230	235	240
Leu Leu Ser Asp Thr Ser Asn Pro Ala Tyr Arg Glu Asp Ile Glu		
245	250	255
Ala Ser Lys Asp His Leu Lys Arg Ser Leu Ala Leu Ala Ala Ala		
260	265	270
Ala Glu His Lys Leu Lys Thr Met Tyr Lys Ser Gln Leu Leu Pro		
275	280	285
Val Gly Arg Thr Ser Asn Lys Ile Asp Asp Ile Glu Thr Val Ile		
290	295	300
Asn Met Leu Cys Asn Ser Arg Ser Lys Leu Tyr Glu Tyr Leu Asp		
305	310	315
Ile Lys Cys Val Pro Pro Glu Met Arg Glu Lys Ala Ala Thr Val		
320	325	330
Phe Asn Thr Leu Lys Asn Met Cys Arg Ser Arg Arg Val Thr Ala		
335	340	345
Leu Leu Lys Val Tyr		
350		

<210> 266

<211> 2403

<212> DNA

<213> Homo sapiens

<400> 266

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acagctggcc tgacctccaa atcatccatc caccctgct gtcattgtt 100

ttcatagtgt gagatcaacc cacaggaata tccatggctt ttgtgctcat 150

tttggttctc agtttctacg agctgggtgc aggacagtgg caagtcactg 200

gaccgggcaa gttgtccag gccttggtgg gggaggacgc cgtgttctcc 250

tgctccctct ttctgagac cagtgcagag gctatggaag tgcggttctt 300

caggaatcag ttcatgctg tggccacct ctacagagat ggggaagact 350

gggaatctaa gcagatgccca cagtatcgag ggagaactga gtttgtgaag 400  
gactccattg caggggggcg tgtctctcta aggctaaaaa acatcactcc 450  
ctcggacatc ggctgtatg ggtgctgggt cagtcccag atttacgatg 500  
aggaggccac ctgggagctg cgggtggcag cactgggctc acttcctctc 550  
atttccatcg tgggatatgt tgacggaggt atccagttac tctgcctgtc 600  
ctcaggctgg ttccccagc ccacagccaa gtggaaaggt ccacaaggac 650  
aggattgtc ttcagactcc agagcaaatg cagatgggta cagcctgtat 700  
gatgtggaga tctccattat agtcaggaa aatgctggga gcatattgtg 750  
ttccatccac ctgtctgagc agagtcatga ggtggaatcc aaggtattga 800  
taggagagac gttttccag cctcacctt ggcgcctggc ttctatttta 850  
ctcgggttac tctgtgtgc cctgtgtgtt gttgtcatgg gcatgataat 900  
tgttttctc aaatccaaag ggaaaatcca ggcggaactg gactggagaa 950  
gaaagcacgg acaggcagaa ttgagagacg cccggaaaca cgcagtggag 1000  
gtgactctgg atccagagac ggctacccg aagctctgcg ttctgatct 1050  
gaaaactgta acccatagaa aagctcccca ggaggtgcct cactctgaga 1100  
agagatttac aaggaagagt gtggtggctt ctcagggtt ccaagcaggg 1150  
agacattact gggaggtgga cgtgggacaa aatgtagggt ggtatgtggg 1200  
agtgtgtcgg gatgacgtag acagggggaa gaacaatgtg actttgtctc 1250  
ccaacaatgg gtattgggtc ctgagactga caacagaaca ttgtatttc 1300  
acattcaatc cccattttat cagcctccc cccagcacc ctcctacag 1350  
agtaggggtc ttctggact atgagggtgg gaccatctcc ttctcaata 1400  
caaatgacca gtcccttatt tataccctgc tgacatgtca gtttgaaggc 1450  
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tcccatattc atatgtccag tgtcctgggg atgagacaga gaagaccctg 1550  
cttaaagggc cccacaccac agaccagac acagccaagg gagagtgtc 1600  
ccgacaggtg gccccagctt cctctccgga gcctgcgcac agagagtcac 1650  
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cacaacctcc caggctctc attgctagt cacggacagt gattcctgcc 1900  
tcacaggtga agattaaaga gacaacgaat gtgaatcatg ctgacaggtt 1950  
tgagggcaca gtgtttgcta atgatgtgtt tttatattat acattttccc 2000  
accataaact ctgtttgctt attccacatt aatttacttt tctctatacc 2050  
aaatcaccca tggaatagtt attgaacacc tgctttgtga ggctcaaaga 2100  
ataaagagga ggtaggattt ttactgatt ctataagccc agcattacct 2150  
gataccaaaa ccaggcaaag aaaacagaag aagaggaagg aaaactacag 2200  
gtccatatcc ctcatcaaca cagacacaaa aattctaaat aaaattttaa 2250  
caaattaaac taaacaatat atttaaagat gatataaac tactcagtgt 2300  
ggtttgctcc acaaatgcag agttggttta atatttaa atcaaccagt 2350  
gtaattcagc acattaataa agtaaaaaag aaaaccataa aaaaaaaaaa 2400  
aaa 2403

<210> 267

<211> 466

<212> PRT

<213> Homo sapiens

<400> 267

Met Ala Phe Val Leu Ile Leu Val Leu Ser Phe Tyr Glu Leu Val

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Ser Gly Gln Trp Gln Val Thr Gly Pro Gly Lys Phe Val Gln Ala			
20	25	30	
Leu Val Gly Glu Asp Ala Val Phe Ser Cys Ser Leu Phe Pro Glu			
35	40	45	
Thr Ser Ala Glu Ala Met Glu Val Arg Phe Phe Arg Asn Gln Phe			
50	55	60	
His Ala Val Val His Leu Tyr Arg Asp Gly Glu Asp Trp Glu Ser			
65	70	75	
Lys Gln Met Pro Gln Tyr Arg Gly Arg Thr Glu Phe Val Lys Asp			
80	85	90	
Ser Ile Ala Gly Gly Arg Val Ser Leu Arg Leu Lys Asn Ile Thr			
95	100	105	
Pro Ser Asp Ile Gly Leu Tyr Gly Cys Trp Phe Ser Ser Gln Ile			
110	115	120	
Tyr Asp Glu Glu Ala Thr Trp Glu Leu Arg Val Ala Ala Leu Gly			
125	130	135	
Ser Leu Pro Leu Ile Ser Ile Val Gly Tyr Val Asp Gly Gly Ile			
140	145	150	
Gln Leu Leu Cys Leu Ser Ser Gly Trp Phe Pro Gln Pro Thr Ala			
155	160	165	
Lys Trp Lys Gly Pro Gln Gly Gln Asp Leu Ser Ser Asp Ser Arg			
170	175	180	
Ala Asn Ala Asp Gly Tyr Ser Leu Tyr Asp Val Glu Ile Ser Ile			
185	190	195	
Ile Val Gln Glu Asn Ala Gly Ser Ile Leu Cys Ser Ile His Leu			
200	205	210	
Ala Glu Gln Ser His Glu Val Glu Ser Lys Val Leu Ile Gly Glu			
215	220	225	
Thr Phe Phe Gln Pro Ser Pro Trp Arg Leu Ala Ser Ile Leu Leu			

230	235	240
Gly Leu Leu Cys Gly Ala Leu Cys Gly Val Val Met Gly Met Ile		
245	250	255
Ile Val Phe Phe Lys Ser Lys Gly Lys Ile Gln Ala Glu Leu Asp		
260	265	270
Trp Arg Arg Lys His Gly Gln Ala Glu Leu Arg Asp Ala Arg Lys		
275	280	285
His Ala Val Glu Val Thr Leu Asp Pro Glu Thr Ala His Pro Lys		
290	295	300
Leu Cys Val Ser Asp Leu Lys Thr Val Thr His Arg Lys Ala Pro		
305	310	315
Gln Glu Val Pro His Ser Glu Lys Arg Phe Thr Arg Lys Ser Val		
320	325	330
Val Ala Ser Gln Gly Phe Gln Ala Gly Arg His Tyr Trp Glu Val		
335	340	345
Asp Val Gly Gln Asn Val Gly Trp Tyr Val Gly Val Cys Arg Asp		
350	355	360
Asp Val Asp Arg Gly Lys Asn Asn Val Thr Leu Ser Pro Asn Asn		
365	370	375
Gly Tyr Trp Val Leu Arg Leu Thr Thr Glu His Leu Tyr Phe Thr		
380	385	390
Phe Asn Pro His Phe Ile Ser Leu Pro Pro Ser Thr Pro Pro Thr		
395	400	405
Arg Val Gly Val Phe Leu Asp Tyr Glu Gly Gly Thr Ile Ser Phe		
410	415	420
Phe Asn Thr Asn Asp Gln Ser Leu Ile Tyr Thr Leu Leu Thr Cys		
425	430	435
Gln Phe Glu Gly Leu Leu Arg Pro Tyr Ile Gln His Ala Met Tyr		
440	445	450
Asp Glu Glu Lys Gly Thr Pro Ile Phe Ile Cys Pro Val Ser Trp		

455

460

465

Gly

&lt;210&gt; 268

&lt;211&gt; 2103

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 268

ccttcacagg actcttcatt gctgggtggc aatgatgtat cggccagatg 50

tggtaggggc taggaaaaga gttgttggg aaccctgggt tatcggcctc 100

gtcatcttca tatccctgat tgcctggca gtgtgcattg gactcactgt 150

tcattatgtg agatataatc aaaagaagac ctacaattac tatagcacat 200

tgtcatttac aactgacaaa ctatatgctg agtttggcag agaggcttct 250

aacaatttta cagaaatgag ccagagactt gaatcaatgg tgaaaaatgc 300

atttataaa tctccattaa gggaagaatt tgtcaagtct caggttatca 350

agttcagtca acagaagcat ggagtgttgg ctcatatgct gttgatttgt 400

agatttact ctactgagga tcctgaaact gtagataaaa ttgtcaact 450

tgttttacat gaaaagctgc aagatgctgt aggaccccct aaagtagatc 500

ctcactcagt taaaattaaa aaaatcaaca agacagaaac agacagctat 550

ctaaaccatt gctgcggaac acgaagaagt aaaactctag gtcagagtct 600

caggatcggt ggtgggacag aagtagaaga gggatgaatgg ccctggcagg 650

ctagcctgca gtgggatggg agtcacgct gtggagcaac ctttaataat 700

gccacatggc ttgtgagtgc tgctcactgt ttacaacat ataagaacct 750

tgccagatgg actgcttctt ttggagtaac aataaaacct tcgaaaatga 800

aacggggtct ccggagaata attgtccatg aaaaatacaa acacccatca 850

catgactatg atatttctct tgcagagctt tctagccctg ttccttacac 900  
aatgcagta catagagttt gtctccctga tgcctcctat gagtttcaac 950  
cagggtgatgt gatgtttgtg acaggatttg gagcactgaa aaatgatggt 1000  
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taagagacaa aagcctcatg gaacagataa cattttttt tgtttttgg 1350  
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tgtcatctgt gagcaatagt tgaaacttta tgtacataga gaaatagata 1550  
atacaatatt acattacagc ctgtattcat ttgttctcta gaagttttgt 1600  
cagaattttg acttgttgac ataaattgt aatgcatata tacaatttga 1650  
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tcccctacat ttattggca cagaaaagta ttaggtgttt ttcttagtgg 1800  
aatattagaa atgatcatai tcattatgaa aggtcaagca aagacagcag 1850  
aataccaatc acttcatcat ttaggaagta tgggaactaa gttaaggaag 1900  
tccagaaaga agccaagata tatecttatt ttcatttcca aacaactact 1950  
atgataaatg tgaagaagat tctgtttttt tgtgacctat aataattata 2000



caaacttcat gcaatgtact tgttctaagc aaattaaagc aaatatttat 2050

ttaacattgt tactgaggat gtcaacatat aacaataaaa tataaatcac 2100

cca 2103

<210> 269

<211> 423

<212> PRT

<213> Homo sapiens

<400> 269

Met Met Tyr Arg Pro Asp Val Val Arg Ala Arg Lys Arg Val Cys

1 5 10 15

Trp Glu Pro Trp Val Ile Gly Leu Val Ile Phe Ile Ser Leu Ile

20 25 30

Val Leu Ala Val Cys Ile Gly Leu Thr Val His Tyr Val Arg Tyr

35 40 45

Asn Gln Lys Lys Thr Tyr Asn Tyr Tyr Ser Thr Leu Ser Phe Thr

50 55 60

Thr Asp Lys Leu Tyr Ala Glu Phe Gly Arg Glu Ala Ser Asn Asn

65 70 75

Phe Thr Glu Met Ser Gln Arg Leu Glu Ser Met Val Lys Asn Ala

80 85 90

Phe Tyr Lys Ser Pro Leu Arg Glu Glu Phe Val Lys Ser Gln Val

95 100 105

Ile Lys Phe Ser Gln Gln Lys His Gly Val Leu Ala His Met Leu

110 115 120

Leu Ile Cys Arg Phe His Ser Thr Glu Asp Pro Glu Thr Val Asp

125 130 135

Lys Ile Val Gln Leu Val Leu His Glu Lys Leu Gln Asp Ala Val

140 145 150

Gly Pro Pro Lys Val Asp Pro His Ser Val Lys Ile Lys Lys Ile

155 160 165

Asn Lys Thr Glu Thr Asp Ser Tyr Leu Asn His Cys Cys Gly Thr  
170 175 180

Arg Arg Ser Lys Thr Leu Gly Gln Ser Leu Arg Ile Val Gly Gly  
185 190 195

Thr Glu Val Glu Glu Gly Glu Trp Pro Trp Gln Ala Ser Leu Gln  
200 205 210

Trp Asp Gly Ser His Arg Cys Gly Ala Thr Leu Ile Asn Ala Thr  
215 220 225

Trp Leu Val Ser Ala Ala His Cys Phe Thr Thr Tyr Lys Asn Pro  
230 235 240

Ala Arg Trp Thr Ala Ser Phe Gly Val Thr Ile Lys Pro Ser Lys  
245 250 255

Met Lys Arg Gly Leu Arg Arg Ile Ile Val His Glu Lys Tyr Lys  
260 265 270

His Pro Ser His Asp Tyr Asp Ile Ser Leu Ala Glu Leu Ser Ser  
275 280 285

Pro Val Pro Tyr Thr Asn Ala Val His Arg Val Cys Leu Pro Asp  
290 295 300

Ala Ser Tyr Glu Phe Gln Pro Gly Asp Val Met Phe Val Thr Gly  
305 310 315

Phe Gly Ala Leu Lys Asn Asp Gly Tyr Ser Gln Asn His Leu Arg  
320 325 330

Gln Ala Gln Val Thr Leu Ile Asp Ala Thr Thr Cys Asn Glu Pro  
335 340 345

Gln Ala Tyr Asn Asp Ala Ile Thr Pro Arg Met Leu Cys Ala Gly  
350 355 360

Ser Leu Glu Gly Lys Thr Asp Ala Cys Gln Gly Asp Ser Gly Gly  
365 370 375

Pro Leu Val Ser Ser Asp Ala Arg Asp Ile Trp Tyr Leu Ala Gly  
380 385 390

Ile Val Ser Trp Gly Asp Glu Cys Ala Lys Pro Asn Lys Pro Gly  
395 400 405

Val Tyr Thr Arg Val Thr Ala Leu Arg Asp Trp Ile Thr Ser Lys  
410 415 420

Thr Gly Ile

<210> 270

<211> 1170

<212> DNA

<213> Homo sapiens

<400> 270

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cagacgtcag ctggtggatt cccgctgcat caaggcctac ccactgtctc 150

catgctgggc tctccctgcc ttctgtggct cctggccgtg accttcttgg 200

ttccagagc tcagcccttg gccctcaag actttgaaga agaggaggca 250

gatgagactg agacggcgtg gccgccttg ccggtgtcc cctgcgacta 300

cgaccactgc cgacacctgc aggtgccctg caaggagcta cagagggtcg 350

ggccggcggc ctgcctgtgc ccaggactct ccagccccgc ccagccgccc 400

gacccgccgc gcatgggaga agtgcgcat gcgccgaag agggccgcgc 450

agtggtccac tgggtgtccc ccttctcccc ggtcctccac tactggctgc 500

tgtttggga cggcagcgag gctgcgcaga aggggcccc gctgaacgct 550

acggtccgca gagccgaact gaaggggctg aagccagggg gcatttatgt 600

cgtttgcgta gtggccgcta acgaggccgg ggcaagccgc gtgccccagg 650

ctggaggaga gggcctcgag ggggccgaca tccctgcctt cgggccttgc 700

agccgccttg cggtgccgcc caacccccgc actctgttcc acgcggccgt 750

cggggtgggc acggccctgg ccctgctaag ctgtgccgcc ctggtgtggc 800  
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 acttggcgtt ttgttctg gctgaggtct gggaaggaat agaaaggggc 1100  
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 ttaaaaaaaaa aaaaaaaaaa 1170

<210> 271

<211> 238

<212> PRT

<213> Homo sapiens

<400> 271

Met	Leu	Gly	Ser	Pro	Cys	Leu	Leu	Trp	Leu	Leu	Ala	Val	Thr	Phe
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Leu	Val	Pro	Arg	Ala	Gln	Pro	Leu	Ala	Pro	Gln	Asp	Phe	Glu	Glu
	20			25			30							

Glu	Glu	Ala	Asp	Glu	Thr	Glu	Thr	Ala	Trp	Pro	Pro	Leu	Pro	Ala
	35			40				45						

Val	Pro	Cys	Asp	Tyr	Asp	His	Cys	Arg	His	Leu	Gln	Val	Pro	Cys
	50			55				60						

Lys	Glu	Leu	Gln	Arg	Val	Gly	Pro	Ala	Ala	Cys	Leu	Cys	Pro	Gly
	65			70				75						

Leu	Ser	Ser	Pro	Ala	Gln	Pro	Pro	Asp	Pro	Pro	Arg	Met	Gly	Glu
	80			85				90						

Val	Arg	Ile	Ala	Ala	Glu	Glu	Gly	Arg	Ala	Val	Val	His	Trp	Cys
	95			100				105						

Ala Pro Phe Ser Pro Val Leu His Tyr Trp Leu Leu Leu Trp Asp  
110 115 120

Gly Ser Glu Ala Ala Gln Lys Gly Pro Pro Leu Asn Ala Thr Val  
125 130 135

Arg Arg Ala Glu Leu Lys Gly Leu Lys Pro Gly Gly Ile Tyr Val  
140 145 150

Val Cys Val Val Ala Ala Asn Glu Ala Gly Ala Ser Arg Val Pro  
155 160 165

Gln Ala Gly Gly Glu Gly Leu Glu Gly Ala Asp Ile Pro Ala Phe  
170 175 180

Gly Pro Cys Ser Arg Leu Ala Val Pro Pro Asn Pro Arg Thr Leu  
185 190 195

Val His Ala Ala Val Gly Val Gly Thr Ala Leu Ala Leu Leu Ser  
200 205 210

Cys Ala Ala Leu Val Trp His Phe Cys Leu Arg Asp Arg Trp Gly  
215 220 225

Cys Pro Arg Arg Ala Ala Ala Arg Ala Ala Gly Ala Leu  
230 235

<210> 272

<211> 2397

<212> DNA

<213> Homo sapiens

<400> 272

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tgcccttggg agtaggatgt ggtgaaagga tggggcttct cccttacggg 200

gctcacaatg gccagagaag attccgtgaa gtgtctgcgc tgctgtct 250

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cacagattat taaattttt tacaagagta tagtatattt attgaaatg 2300

ggaaaagtc attttactgt atttgtgta tttgtttat ttctcagaat 2350

atggaaagaa aattaaatg tgtcaataaa tattttctag agagtaa 2397

<210> 273

<211> 305

<212> PRT

<213> Homo sapiens

<400> 273

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Val Ser Ala Trp Met Arg Asp Tyr Leu Asn Asn Val Leu Thr Leu			
35	40	45	
Thr Ala Glu Thr Arg Val Glu Glu Ala Val Ile Leu Thr Tyr Phe			
50	55	60	
Pro Val Val His Pro Val Met Ile Ala Val Cys Cys Phe Leu Ile			
65	70	75	
Ile Val Gly Met Leu Gly Tyr Cys Gly Thr Val Lys Arg Asn Leu			
80	85	90	
Leu Leu Leu Ala Trp Tyr Phe Gly Ser Leu Leu Val Ile Phe Cys			
95	100	105	
Val Glu Leu Ala Cys Gly Val Trp Thr Tyr Glu Gln Glu Leu Met			
110	115	120	
Val Pro Val Gln Trp Ser Asp Met Val Thr Leu Lys Ala Arg Met			
125	130	135	
Thr Asn Tyr Gly Leu Pro Arg Tyr Arg Trp Leu Thr His Ala Trp			
140	145	150	
Asn Phe Phe Gln Arg Glu Phe Lys Cys Cys Gly Val Val Tyr Phe			
155	160	165	
Thr Asp Trp Leu Glu Met Thr Glu Met Asp Trp Pro Pro Asp Ser			
170	175	180	
Cys Cys Val Arg Glu Phe Pro Gly Cys Ser Lys Gln Ala His Gln			
185	190	195	
Glu Asp Leu Ser Asp Leu Tyr Gln Glu Gly Cys Gly Lys Lys Met			
200	205	210	
Tyr Ser Phe Leu Arg Gly Thr Lys Gln Leu Gln Val Leu Arg Phe			
215	220	225	
Leu Gly Ile Ser Ile Gly Val Thr Gln Ile Leu Ala Met Ile Leu			



230	235	240
Thr Ile Thr Leu Leu Trp Ala Leu Tyr Tyr Asp Arg Arg Glu Pro		
245	250	255
Gly Thr Asp Gln Met Met Ser Leu Lys Asn Asp Asn Ser Gln His		
260	265	270
Leu Ser Cys Pro Ser Val Glu Leu Leu Lys Pro Ser Leu Ser Arg		
275	280	285
Ile Phe Glu His Thr Ser Met Ala Asn Ser Phe Asn Thr His Phe		
290	295	300
Glu Met Glu Glu Leu		
305		

<210> 274

<211> 2063

<212> DNA

<213> Homo sapiens

<400> 274

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cttgggggtga caatctcagc tccaggctac agggagaccg ggaggatcac 200

agagccagca tgttacagga tctgacagt gatcaacctc tgaacagcct 250

cgatgtcaaa cccctgcgca aaccccgat ccccatggag accttcagaa 300

aggtggggat ccccatcatc atagcactac tgagcctggc gagtatcatc 350

attgtggttg tctcatcaa ggtgattctg gataaatact acttcctctg 400

cgggcagcct ctccacttca tcccgaggaa gcagctgtgt gacggagagc 450

tggactgtcc ctggggggag gacgaggagc actgtgtcaa gagcttcccc 500

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<210> 275

<211> 432

<212> PRT

<213> Homo sapiens

<400> 275

Met Leu Gln Asp Pro Asp Ser Asp Gln Pro Leu Asn Ser Leu Asp

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Val Lys Pro Leu Arg Lys Pro Arg Ile Pro Met Glu Thr Phe Arg

20 25 30

Lys Val Gly Ile Pro Ile Ile Ile Ala Leu Leu Ser Leu Ala Ser

35 40 45

Ile Ile Ile Val Val Val Leu Ile Lys Val Ile Leu Asp Lys Tyr

50 55 60

Tyr Phe Leu Cys Gly Gln Pro Leu His Phe Ile Pro Arg Lys Gln

65 70 75

Leu Cys Asp Gly Glu Leu Asp Cys Pro Leu Gly Glu Asp Glu Glu

80 85 90

His Cys Val Lys Ser Phe Pro Glu Gly Pro Ala Val Ala Val Arg

95 100 105

Leu Ser Lys Asp Arg Ser Thr Leu Gln Val Leu Asp Ser Ala Thr

110 115 120

Gly Asn Trp Phe Ser Ala Cys Phe Asp Asn Phe Thr Glu Ala Leu  
125 130 135

Ala Glu Thr Ala Cys Arg Gln Met Gly Tyr Ser Arg Ala Val Glu  
140 145 150

Ile Gly Pro Asp Gln Asp Leu Asp Val Val Glu Ile Thr Glu Asn  
155 160 165

Ser Gln Glu Leu Arg Met Arg Asn Ser Ser Gly Pro Cys Leu Ser  
170 175 180

Gly Ser Leu Val Ser Leu His Cys Leu Ala Cys Gly Lys Ser Leu  
185 190 195

Lys Thr Pro Arg Val Val Gly Gly Glu Glu Ala Ser Val Asp Ser  
200 205 210

Trp Pro Trp Gln Val Ser Ile Gln Tyr Asp Lys Gln His Val Cys  
215 220 225

Gly Gly Ser Ile Leu Asp Pro His Trp Val Leu Thr Ala Ala His  
230 235 240

Cys Phe Arg Lys His Thr Asp Val Phe Asn Trp Lys Val Arg Ala  
245 250 255

Gly Ser Asp Lys Leu Gly Ser Phe Pro Ser Leu Ala Val Ala Lys  
260 265 270

Ile Ile Ile Ile Glu Phe Asn Pro Met Tyr Pro Lys Asp Asn Asp  
275 280 285

Ile Ala Leu Met Lys Leu Gln Phe Pro Leu Thr Phe Ser Gly Thr  
290 295 300

Val Arg Pro Ile Cys Leu Pro Phe Phe Asp Glu Glu Leu Thr Pro  
305 310 315

Ala Thr Pro Leu Trp Ile Ile Gly Trp Gly Phe Thr Lys Gln Asn  
320 325 330

Gly Gly Lys Met Ser Asp Ile Leu Leu Gln Ala Ser Val Gln Val  
335 340 345

Ile Asp Ser Thr Arg Cys Asn Ala Asp Asp Ala Tyr Gln Gly Glu  
350 355 360

Val Thr Glu Lys Met Met Cys Ala Gly Ile Pro Glu Gly Gly Val  
365 370 375

Asp Thr Cys Gln Gly Asp Ser Gly Gly Pro Leu Met Tyr Gln Ser  
380 385 390

Asp Gln Trp His Val Val Gly Ile Val Ser Trp Gly Tyr Gly Cys  
395 400 405

Gly Gly Pro Ser Thr Pro Gly Val Tyr Thr Lys Val Ser Ala Tyr  
410 415 420

Leu Asn Trp Ile Tyr Asn Val Trp Lys Ala Glu Leu  
425 430

<210> 276

<211> 3143

<212> DNA

<213> Homo sapiens

<400> 276

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cctctcccc tcccttttcc ttgttttgg gattcagaaa actgcttgtc 3100

agagactgtt tatttttat taaaaatata aggettaaaa aaa 3143

<210> 277

<211> 761

<212> PRT

<213> Homo sapiens

<400> 277

Met Ala Leu Pro Ala Leu Gly Leu Asp Pro Trp Ser Leu Leu Gly  
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20 25 30

Ala Gly Gly Gly Gly Gln Gly Pro Met Pro Arg Val Arg Tyr Tyr  
35 40 45

Ala Gly Asp Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly  
50 55 60

Leu Gln Asp Phe Asp Thr Leu Leu Leu Ser Gly Asp Gly Asn Thr  
65 70 75

Leu Tyr Val Gly Ala Arg Glu Ala Ile Leu Ala Leu Asp Ile Gln  
80 85 90

Asp Pro Gly Val Pro Arg Leu Lys Asn Met Ile Pro Trp Pro Ala  
95 100 105

Ser Asp Arg Lys Lys Ser Glu Cys Ala Phe Lys Lys Lys Ser Asn  
110 115 120

Glu Thr Gln Cys Phe Asn Phe Ile Arg Val Leu Val Ser Tyr Asn  
125 130 135



Val Thr His Leu Tyr Thr Cys Gly Thr Phe Ala Phe Ser Pro Ala  
140 145 150

Cys Thr Phe Ile Glu Leu Gln Asp Ser Tyr Leu Leu Pro Ile Ser  
155 160 165

Glu Asp Lys Val Met Glu Gly Lys Gly Gln Ser Pro Phe Asp Pro  
170 175 180

Ala His Lys His Thr Ala Val Leu Val Asp Gly Met Leu Tyr Ser  
185 190 195

Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile Leu Met Arg  
200 205 210

Thr Leu Gly Ser Gln Pro Val Leu Lys Thr Asp Asn Phe Leu Arg  
215 220 225

Trp Leu His His Asp Ala Ser Phe Val Ala Ala Ile Pro Ser Thr  
230 235 240

Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp  
245 250 255

Phe Phe Glu Arg Leu His Thr Ser Arg Val Ala Arg Val Cys Lys  
260 265 270

Asn Asp Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr  
275 280 285

Phe Leu Lys Ala Gln Leu Leu Cys Thr Gln Pro Gly Gln Leu Pro  
290 295 300

Phe Asn Val Ile Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro  
305 310 315

Thr Ala Pro His Ile Tyr Ala Val Phe Thr Ser Gln Trp Gln Val  
320 325 330

Gly Gly Thr Arg Ser Ser Ala Val Cys Ala Phe Ser Leu Leu Asp  
335 340 345

Ile Glu Arg Val Phe Lys Gly Lys Tyr Lys Glu Leu Asn Lys Glu  
350 355 360

Thr Ser Arg Trp Thr Thr Tyr Arg Gly Pro Glu Thr Asn Pro Arg  
365 370 375

Pro Gly Ser Cys Ser Val Gly Pro Ser Ser Asp Lys Ala Leu Thr  
380 385 390

Phe Met Lys Asp His Phe Leu Met Asp Glu Gln Val Val Gly Thr  
395 400 405

Pro Leu Leu Val Lys Ser Gly Val Glu Tyr Thr Arg Leu Ala Val  
410 415 420

Glu Thr Ala Gln Gly Leu Asp Gly His Ser His Leu Val Met Tyr  
425 430 435

Leu Gly Thr Thr Thr Gly Ser Leu His Lys Ala Val Val Ser Gly  
440 445 450

Asp Ser Ser Ala His Leu Val Glu Glu Ile Gln Leu Phe Pro Asp  
455 460 465

Pro Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Thr Gln Gly Ala  
470 475 480

Val Phe Val Gly Phe Ser Gly Gly Val Trp Arg Val Pro Arg Ala  
485 490 495

Asn Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg  
500 505 510

Asp Pro His Cys Ala Trp Asp Pro Glu Ser Arg Thr Cys Cys Leu  
515 520 525

Leu Ser Ala Pro Asn Leu Asn Ser Trp Lys Gln Asp Met Glu Arg  
530 535 540

Gly Asn Pro Glu Trp Ala Cys Ala Ser Gly Pro Met Ser Arg Ser  
545 550 555

Leu Arg Pro Gln Ser Arg Pro Gln Ile Ile Lys Glu Val Leu Ala  
560 565 570

Val Pro Asn Ser Ile Leu Glu Leu Pro Cys Pro His Leu Ser Ala  
575 580 585

Leu Ala Ser Tyr Tyr Trp Ser His Gly Pro Ala Ala Val Pro Glu  
590 595 600

Ala Ser Ser Thr Val Tyr Asn Gly Ser Leu Leu Leu Ile Val Gln  
605 610 615

Asp Gly Val Gly Gly Leu Tyr Gln Cys Trp Ala Thr Glu Asn Gly  
620 625 630

Phe Ser Tyr Pro Val Ile Ser Tyr Trp Val Asp Ser Gln Asp Gln  
635 640 645

Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly Ile Pro Arg Glu His  
650 655 660

Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly Ala Ala Leu Ala  
665 670 675

Ala Gln Gln Ser Tyr Trp Pro His Phe Val Thr Val Thr Val Leu  
680 685 690

Phe Ala Leu Val Leu Ser Gly Ala Leu Ile Ile Leu Val Ala Ser  
695 700 705

Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Glu  
710 715 720

Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His  
725 730 735

Leu Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp  
740 745 750

Ala Asp Asn Asn Cys Leu Gly Thr Glu Val Ala  
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<210> 278

<211> 24

<212> DNA

<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

<400> 278

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<210> 279

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 279

gtctggtcct ggctgtccac ccag 24

<210> 280

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 280

catcttgta tgtacctggg aaccaccaca gggctgctcc acaag 45

<210> 281

<211> 2320

<212> DNA

<213> Homo sapiens

<400> 281

agggtccctt agccgggcgc agggcgcgca gcccaggctg agatccgcgg 50

cttccgtaga agtgagcatg gctgggcagc gagtgcctct tctagtgggc 100

ttccttctcc ctgggtcct gctctcagag gctgccaaaa tctgacaat 150

atctacagta ggtggaagcc attatctact gatggaccgg gtttctcaga 200

ttcttcaaga tcacggtcat aatgtcacca tgcttaacca caaaagaggt 250

ccttttatgc cagattttaa aaaggaagaa aaatcatatc aagttatcag 300

ttggcttgca cctgaagatc atcaaagaga atttaaaaag agttttgatt 350

tctttctgga agaaacttta ggtggcagag gaaaatttga aaacttatta 400

aatgttctag aatacttggc gttgcagtgc agtcattttt taaatagaaa 450  
ggatatcatg gattccttaa agaagagaa cttegacatg gtgatagttg 500  
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 gtccctgtct ctggtgccca cagtgagctc cttcttggt gagcaggeat 2250  
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<210> 282

<211> 523

<212> PRT

<213> Homo sapiens

<400> 282

Met Ala Gly Gln Arg Val Leu Leu Leu Val Gly Phe Leu Leu Pro

1 5 10 15

Gly Val Leu Leu Ser Glu Ala Ala Lys Ile Leu Thr Ile Ser Thr

20 25 30

Val Gly Gly Ser His Tyr Leu Leu Met Asp Arg Val Ser Gln Ile

35	40	45
Leu Gln Asp His Gly His Asn Val Thr Met Leu Asn His Lys Arg		
50	55	60
Gly Pro Phe Met Pro Asp Phe Lys Lys Glu Glu Lys Ser Tyr Gln		
65	70	75
Val Ile Ser Trp Leu Ala Pro Glu Asp His Gln Arg Glu Phe Lys		
80	85	90
Lys Ser Phe Asp Phe Phe Leu Glu Glu Thr Leu Gly Gly Arg Gly		
95	100	105
Lys Phe Glu Asn Leu Leu Asn Val Leu Glu Tyr Leu Ala Leu Gln		
110	115	120
Cys Ser His Phe Leu Asn Arg Lys Asp Ile Met Asp Ser Leu Lys		
125	130	135
Asn Glu Asn Phe Asp Met Val Ile Val Glu Thr Phe Asp Tyr Cys		
140	145	150
Pro Phe Leu Ile Ala Glu Lys Leu Gly Lys Pro Phe Val Ala Ile		
155	160	165
Leu Ser Thr Ser Phe Gly Ser Leu Glu Phe Gly Leu Pro Ile Pro		
170	175	180
Leu Ser Tyr Val Pro Val Phe Arg Ser Leu Leu Thr Asp His Met		
185	190	195
Asp Phe Trp Gly Arg Val Lys Asn Phe Leu Met Phe Phe Ser Phe		
200	205	210
Cys Arg Arg Gln Gln His Met Gln Ser Thr Phe Asp Asn Thr Ile		
215	220	225
Lys Glu His Phe Thr Glu Gly Ser Arg Pro Val Leu Ser His Leu		
230	235	240
Leu Leu Lys Ala Glu Leu Trp Phe Ile Asn Ser Asp Phe Ala Phe		
245	250	255
Asp Phe Ala Arg Pro Leu Leu Pro Asn Thr Val Tyr Val Gly Gly		

260	265	270
Leu Met Glu Lys Pro Ile Lys Pro Val Pro Gln Asp Leu Glu Asn		
275	280	285
Phe Ile Ala Lys Phe Gly Asp Ser Gly Phe Val Leu Val Thr Leu		
290	295	300
Gly Ser Met Val Asn Thr Cys Gln Asn Pro Glu Ile Phe Lys Glu		
305	310	315
Met Asn Asn Ala Phe Ala His Leu Pro Gln Gly Val Ile Trp Lys		
320	325	330
Cys Gln Cys Ser His Trp Pro Lys Asp Val His Leu Ala Ala Asn		
335	340	345
Val Lys Ile Val Asp Trp Leu Pro Gln Ser Asp Leu Leu Ala His		
350	355	360
Pro Ser Ile Arg Leu Phe Val Thr His Gly Gly Gln Asn Ser Ile		
365	370	375
Met Glu Ala Ile Gln His Gly Val Pro Met Val Gly Ile Pro Leu		
380	385	390
Phe Gly Asp Gln Pro Glu Asn Met Val Arg Val Glu Ala Lys Lys		
395	400	405
Phe Gly Val Ser Ile Gln Leu Lys Lys Leu Lys Ala Glu Thr Leu		
410	415	420
Ala Leu Lys Met Lys Gln Ile Met Glu Asp Lys Arg Tyr Lys Ser		
425	430	435
Ala Ala Val Ala Ala Ser Val Ile Leu Arg Ser His Pro Leu Ser		
440	445	450
Pro Thr Gln Arg Leu Val Gly Trp Ile Asp His Val Leu Gln Thr		
455	460	465
Gly Gly Ala Thr His Leu Lys Pro Tyr Val Phe Gln Gln Pro Trp		
470	475	480
His Glu Gln Tyr Leu Phe Asp Val Phe Val Phe Leu Leu Gly Leu		



485

490

495

Thr Leu Gly Thr Leu Trp Leu Cys Gly Lys Leu Leu Gly Met Ala  
500 505 510

Val Trp Trp Leu Arg Gly Ala Arg Lys Val Lys Glu Thr  
515 520

<210> 283

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 283

tgcccttgct cacctacccc aagg 24

<210> 284

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 284

tcaggctggg ctccaaagag aggg 24

<210> 285

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 285

cccaaagatg tccacctggc tgcaaatgtg aaaattgtgg actgg 45

<210> 286

<211> 2340

<212> DNA

<213> Homo sapiens

<400> 286

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caactagaga atgggtgtca gtgagacact atagaattac taaggagaag 2250

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agaggaaaat aaatatcaaa ctgtatacta aaattaaaaa 2340

<210> 287

<211> 205

<212> PRT

<213> Homo sapiens

<400> 287

Met Leu Gly Ala Lys Pro His Trp Leu Pro Gly Pro Leu His Ser

1 5 10 15

Pro Gly Leu Pro Leu Val Leu Val Leu Leu Ala Leu Gly Ala Gly

20 25 30

Trp Ala Gln Glu Gly Ser Glu Pro Val Leu Leu Glu Gly Glu Cys

35 40 45

Leu Val Val Cys Glu Pro Gly Arg Ala Ala Ala Gly Gly Pro Gly

50 55 60

Gly Ala Ala Leu Gly Glu Ala Pro Pro Gly Arg Val Ala Phe Ala

65 70 75

Ala Val Arg Ser His His His Glu Pro Ala Gly Glu Thr Gly Asn

80 85 90

Gly Thr Ser Gly Ala Ile Tyr Phe Asp Gln Val Leu Val Asn Glu

95 100 105

Gly Gly Gly Phe Asp Arg Ala Ser Gly Ser Phe Val Ala Pro Val

110 115 120

Arg Gly Val Tyr Ser Phe Arg Phe His Val Val Lys Val Tyr Asn

125 130 135

Arg Gln Thr Val Gln Val Ser Leu Met Leu Asn Thr Trp Pro Val

140 145 150

Ile Ser Ala Phe Ala Asn Asp Pro Asp Val Thr Arg Glu Ala Ala

155 160 165

Thr Ser Ser Val Leu Leu Pro Leu Asp Pro Gly Asp Arg Val Ser

170 175 180

Leu Arg Leu Arg Arg Gly Asn Leu Leu Gly Gly Trp Lys Tyr Ser  
185 190 195

Ser Phe Ser Gly Phe Leu Ile Phe Pro Leu  
200 205

<210> 288

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 288

aggcagccac cagctctgtg ctac 24

<210> 289

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 289

cagagaggga agatgaggaa gccagag 27

<210> 290

<211> 42

<212> DNA

<213> Artificial Sequence

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ctgtgctact gcccttgac cctggggacc gagggtctct gc 42

<210> 291

<211> 1570

<212> DNA

<213> Homo sapiens

<400> 291

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ccctggcccc gggggccggg gcatgggcca ggggcgcggg gtgaagcggc 150  
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 gaaattataa caattttgct aaacaaaaa aaaaaaaaa aaaaaaaaa 1500  
 aaaaaaaaa aaaaaaaaa aaaaaaaaa aaaaaaaaa aaaaaaaaa 1550  
 aaaaaaaaa aaaaaaaaa 1570

<210> 292

<211> 388

<212> PRT

<213> Homo sapiens

<400> 292

Met	Lys	Thr	Leu	Ile	Ala	Ala	Tyr	Ser	Gly	Val	Leu	Arg	Gly	Glu
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Arg Gln Ala Glu Ala Asp Arg Ser Gln Arg Ser His Gly Gly Pro														
		20		25					30					
Ala Leu Ser Arg Glu Gly Ser Gly Arg Trp Gly Thr Gly Ser Ser														
		35		40					45					
Ile Leu Ser Ala Leu Gln Asp Leu Phe Ser Val Thr Trp Leu Asn														
		50		55					60					
Arg Ser Lys Val Glu Lys Gln Leu Gln Val Ile Ser Val Leu Gln														
		65		70					75					
Trp Val Leu Ser Phe Leu Val Leu Gly Val Ala Cys Ser Ala Ile														
		80		85					90					
Leu Met Tyr Ile Phe Cys Thr Asp Cys Trp Leu Ile Ala Val Leu														
		95		100					105					

Tyr Phe Thr Trp Leu Val Phe Asp Trp Asn Thr Pro Lys Lys Gly  
110 115 120

Gly Arg Arg Ser Gln Trp Val Arg Asn Trp Ala Val Trp Arg Tyr  
125 130 135

Phe Arg Asp Tyr Phe Pro Ile Gln Leu Val Lys Thr His Asn Leu  
140 145 150

Leu Thr Thr Arg Asn Tyr Ile Phe Gly Tyr His Pro His Gly Ile  
155 160 165

Met Gly Leu Gly Ala Phe Cys Asn Phe Ser Thr Glu Ala Thr Glu  
170 175 180

Val Ser Lys Lys Phe Pro Gly Ile Arg Pro Tyr Leu Ala Thr Leu  
185 190 195

Ala Gly Asn Phe Arg Met Pro Val Leu Arg Glu Tyr Leu Met Ser  
200 205 210

Gly Gly Ile Cys Pro Val Ser Arg Asp Thr Ile Asp Tyr Leu Leu  
215 220 225

Ser Lys Asn Gly Ser Gly Asn Ala Ile Ile Ile Val Val Gly Gly  
230 235 240

Ala Ala Glu Ser Leu Ser Ser Met Pro Gly Lys Asn Ala Val Thr  
245 250 255

Leu Arg Asn Arg Lys Gly Phe Val Lys Leu Ala Leu Arg His Gly  
260 265 270

Ala Asp Leu Val Pro Ile Tyr Ser Phe Gly Glu Asn Glu Val Tyr  
275 280 285

Lys Gln Val Ile Phe Glu Glu Gly Ser Trp Gly Arg Trp Val Gln  
290 295 300

Lys Lys Phe Gln Lys Tyr Ile Gly Phe Ala Pro Cys Ile Phe His  
305 310 315

Gly Arg Gly Leu Phe Ser Ser Asp Thr Trp Gly Leu Val Pro Tyr  
320 325 330



Ser Lys Pro Ile Thr Thr Val Val Gly Glu Pro Ile Thr Ile Pro  
335 340 345

Lys Leu Glu His Pro Thr Gln Gln Asp Ile Asp Leu Tyr His Thr  
350 355 360

Met Tyr Met Glu Ala Leu Val Lys Leu Phe Asp Lys His Lys Thr  
365 370 375

Lys Phe Gly Leu Pro Glu Thr Glu Val Leu Glu Val Asn  
380 385

<210> 293

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 293

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<210> 294

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 294

cccacagaca cccatgacac ttcc 24

<210> 295

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 295

aagaatgaat tgtacaaagc aggtgatctt cgaggagggc tcctggggcc 50

<210> 296

<211> 3060

<212> DNA

<213> Homo sapiens

<400> 296

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cggggccgcg gaggcgacgc cggggacgcc cgcgcgacga gcaggtggcg 150  
gcggtgcag gcttgccag ccggaagccc tgagggcagc tgttcccact 200  
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ggggtcaggc tgatctcaaa ctctgagtt caggtgatct gcccgcctca 2200  
 gcctcccaaa gtgttgatg tgcaggcgtg agccactgcg cctggccgga 2250  
 atttctttt aaggctgaat gatgggggcc aggcacgatg gctcacgcct 2300  
 gtgatccaa gtgacttga ttgtaacat gcaccacat gcctggctaa 2350  
 ttttgtatt ttagtagag acgtgttagc caggctggc tcgatctct 2400  
 gacctcaagt gaccactgc ctgacctcc caaagtactg ggattacagg 2450  
 cgtgagccac tgtgcctggc ctgagcatc ttgtgatg cttattggcc 2500  
 attgtatat ctctatctt ctttggggaa atgtctgtc aagtccttg 2550  
 ccttttaaa ttttattat ttattattt atttatttg agacagggtc 2600  
 ttgtctgtt gcccaggctg gactacagt gcacagtct ggctcactgc 2650  
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 agctgtatt tttgtattt tgtatttgt agcttagtt tttgtattt 2750  
 ttgtggagac agcattcac catgatgcc aggctggtct tgaactcctg 2800  
 agctcaagt atctgcctgc ttcacctcc caaagtctg ggattacaga 2850  
 catgagccac tgcactggc aaactccaa aattcaacac acacacaaa 2900  
 aaaaccacct gattcaaat gggcagagg gccgggtgtg gcccacta 2950  
 ccaggagac tgaagtggga ggatcgctt ggcatgagaa gtcaggctg 3000  
 cagtgagtc aggtgtgcg actgcattcc agcctggaca acagagtga 3050  
 accctgtctc 3060

<210> 297

<211> 368

<212> PRT

<213> Homo sapiens

<400> 297

Met Gly Leu Leu Ala Phe Leu Lys Thr Gln Phe Val Leu His Leu

1	5	10	15
Leu Val Gly Phe Val Phe Val Val Ser Gly Leu Val Ile Asn Phe			
20	25	30	
Val Gln Leu Cys Thr Leu Ala Leu Trp Pro Val Ser Lys Gln Leu			
35	40	45	
Tyr Arg Arg Leu Asn Cys Arg Leu Ala Tyr Ser Leu Trp Ser Gln			
50	55	60	
Leu Val Met Leu Leu Glu Trp Trp Ser Cys Thr Glu Cys Thr Leu			
65	70	75	
Phe Thr Asp Gln Ala Thr Val Glu Arg Phe Gly Lys Glu His Ala			
80	85	90	
Val Ile Ile Leu Asn His Asn Phe Glu Ile Asp Phe Leu Cys Gly			
95	100	105	
Trp Thr Met Cys Glu Arg Phe Gly Val Leu Gly Ser Ser Lys Val			
110	115	120	
Leu Ala Lys Lys Glu Leu Leu Tyr Val Pro Leu Ile Gly Trp Thr			
125	130	135	
Trp Tyr Phe Leu Glu Ile Val Phe Cys Lys Arg Lys Trp Glu Glu			
140	145	150	
Asp Arg Asp Thr Val Val Glu Gly Leu Arg Arg Leu Ser Asp Tyr			
155	160	165	
Pro Glu Tyr Met Trp Phe Leu Leu Tyr Cys Glu Gly Thr Arg Phe			
170	175	180	
Thr Glu Thr Lys His Arg Val Ser Met Glu Val Ala Ala Ala Lys			
185	190	195	
Gly Leu Pro Val Leu Lys Tyr His Leu Leu Pro Arg Thr Lys Gly			
200	205	210	
Phe Thr Thr Ala Val Lys Cys Leu Arg Gly Thr Val Ala Ala Val			
215	220	225	
Tyr Asp Val Thr Leu Asn Phe Arg Gly Asn Lys Asn Pro Ser Leu			

230	235	240
Leu Gly Ile Leu Tyr Gly Lys Lys Tyr Glu Ala Asp Met Cys Val		
245	250	255
Arg Arg Phe Pro Leu Glu Asp Ile Pro Leu Asp Glu Lys Glu Ala		
260	265	270
Ala Gln Trp Leu His Lys Leu Tyr Gln Glu Lys Asp Ala Leu Gln		
275	280	285
Glu Ile Tyr Asn Gln Lys Gly Met Phe Pro Gly Glu Gln Phe Lys		
290	295	300
Pro Ala Arg Arg Pro Trp Thr Leu Leu Asn Phe Leu Ser Trp Ala		
305	310	315
Thr Ile Leu Leu Ser Pro Leu Phe Ser Phe Val Leu Gly Val Phe		
320	325	330
Ala Ser Gly Ser Pro Leu Leu Ile Leu Thr Phe Leu Gly Phe Val		
335	340	345
Gly Ala Ala Ser Phe Gly Val Arg Arg Leu Ile Gly Glu Ser Leu		
350	355	360
Glu Pro Gly Arg Trp Arg Leu Gln		
365		

<210> 298

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 298

cttcctctgt gggtggacca tgtg 24

<210> 299

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 299

gccacctcca tgctaacgcg g 21

<210> 300

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 300

ccaaggtcct cgtaagaag gagtgctct acgtgccct catcg 45

<210> 301

<211> 1334

<212> DNA

<213> Homo sapiens

<400> 301

gatattctt attttaaga atctgaagta ctatgcatca ctccctccaa 50

tgtcctgggg cagccaccag gcatattcat ctttgtgtgt gttttcttt 100

tgttttagca ctggggcact tcttgcttat ttctttgta ggaaaggggc 150

tcagttgtc ttgtgggggt ggtggcaggc aggccggctt acgcctgata 200

cggccctggg ttagaaggga agggaagata aactttata caaatgggga 250

tagctgggggt ctgagacctg ctctctcagt aaaattctg ggatctgcct 300

atacttctt ttcttaacc tggcataccc tgcttaaagc ctctcagggc 350

ttctctctgt tcttaggatc aaagtattta gagctacaag agccctcatg 400

gtctggcccc tgccccctg gccagcttca ttgtacatgt ggtgttctct 450

tgtcgttctt gtaatgtgtg atgcatggg gtctttgcac aagcctttcc 500

tcttggtctg gacactgttc cctgcccccc ccatactctt cctacttaat 550

atgtagtcat cctgcagatt tcaattctaa catcatttc tccagggatc 600  
 ctggcctgac agaattcat ctgtttaat gctctcataa gaccactgt 650  
 ttccctttg cagcactgc cactcagttg tatctttatg tgcgtttgtg 700  
 gttgtatggg ttgtgtctgt tccccagaat gccagctct gagctgcgtg 750  
 aggggtcaagg gcattgctgt gcctgccagg tatagtgcct acatgtgggtg 800  
 ggtgctcatg ttttagagac taaatggagg aggagatgag gaaaagattg 850  
 aaatctctca gttcaccaga tgggttaggg cccagcattg taaattcaca 900  
 cgttgactgt gcttgtgaat tatctgggga tgcaggtcct gattcagtag 950  
 gccaggttg ggcattctta aaaaactccc acgtgatgct gatgctggtc 1000  
 ctatgaacta tactaaatag taagaatcta tggagccagg ctgggcatgg 1050  
 tggctcacac ctatgatccc agcactttgg gaggtgagg caggctgac 1100  
 acctggagtc aggattcaa gactagcctg gccaacatgg tggaacccca 1150  
 tctgtactaa aaatacaca attagctggg catggtggca catgctgta 1200  
 gtcccagcta ctggggaggc tgaagcaaga gaatcgcttg aacctgggag 1250  
 gcggagggtg cagtgagccg agatcaggcc actgtattcc aaccagggtg 1300  
 acagagtgag actctatgtc caaaaaaaaa aaaa 1334

<210> 302

<211> 143

<212> PRT

<213> Homo sapiens

<400> 302

Met His His Ser Leu Gln Cys Pro Gly Ala Ala Thr Arg His Ile

1 5 10 15

His Leu Cys Val Cys Phe Ser Phe Ala Leu Ala Leu Gly His Phe

20 25 30

Leu Leu Ile Ser Leu Val Gly Lys Gly Leu Ser Leu Ser Cys Gly



35	40	45
Val Gly Gly Arg Gln Ala Gly Leu Arg Leu Ile Arg Pro Trp Val		
50	55	60
Arg Arg Glu Gly Lys Ile Asn Phe Tyr Thr Asn Gly Asp Ser Trp		
65	70	75
Gly Leu Arg Pro Ala Ser Ser Val Lys Phe Leu Gly Ser Ala Tyr		
80	85	90
Thr Phe Phe Ser Leu Thr Trp His Thr Leu Leu Lys Ala Ser Gln		
95	100	105
Gly Phe Ser Leu Phe Leu Gly Ser Lys Tyr Leu Glu Leu Gln Glu		
110	115	120
Pro Ser Trp Ser Gly Pro Cys Pro Pro Gly Gln Leu His Cys Thr		
125	130	135
Cys Gly Val Leu Leu Ser Phe Leu		
140		

<210> 303

<211> 1768

<212> DNA

<213> Homo sapiens

<400> 303

ggctggactg gaactcctgg tcccaagtga tccacccgcc tcagcctccc 50

aaggtgctgt gattataggt gtaagccacc gtgtctggcc tctgaacaac 100

ttttcagca actaaaaaag ccacaggagt tgaactgcta ggattctgac 150

tatgctgtgg tggctagtgc tctactcct acctacatta aaatctgttt 200

ttgtttctct tgtaactage ctttaccttc ctaacacaga ggatctgtca 250

ctgtggctct ggcccaaacc tgaccttcac tctggaacga gaacagaggt 300

ttctaccac accgtcccct cgaagccggg gacagcctca ccttgctggc 350

ctctcgctgg agcagtgcc tcaccaactg tctcacgtct ggaggcactg 400

actcgggcag tgcaggtagc tgagcctctt ggtagctgcg gctttcaagg 450  
tgggccttgc cctggccgta gaagggattg acaagcccga agatttcata 500  
ggcgaaggct cccactgccc aggcacacgc cttgctgtag tcaatcactg 550  
ccctggggcc aggacgggcc gtggacacct gctcagaagc agtgggtgag 600  
acatcacgct gcccgcccat ctaacctttt catgtctgc acatcacctg 650  
atccatgggc taatctgaac tctgtccaa ggaaccaga gcttgagtga 700  
gctgtggctc agaccagaa ggggtctgct tagaccacct ggtttatgtg 750  
acaggacttg cattctctg gaacatgagg gaacgccga ggaaagcaaa 800  
gtggcaggga aggaacttgt gccaaattat gggtcagaaa agatggaggt 850  
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ggaagggtg ccgatggcg atgacacact cgggactcac ctctggggcc 950  
atcagacagc cgtttccgcc ccgatccag taccagtgc tgaagggcaa 1000  
ctgcaggccg atgtctcat cagccaggca gcagccaaaa tctgcgatca 1050  
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ctccccctt tccctctgag aggccctct atgtccctac taaagccacc 1150  
agcaagacat agctgacagg ggctaattgg tcagtgttg cccaggaggt 1200  
cagcaaggcc tgagagctga tcagaagggc ctgctgtgcg aacacggaaa 1250  
tgctccagt aagcacaggc tgcaaatcc ccaggcaaag gactgtgtgg 1300  
ctcaatttaa atcatgttct agtaattgga gctgtccca agaccaaagg 1350  
agctagagct tggttcaat gatctcaag ggcccttata cccaggaga 1400  
ctttgattg aatttgaaac cccaaatcca aacctaagaa ccaggtgcat 1450  
taagaatcag ttattgccg gtgtggtggc ctgtaatgcc aacatttgg 1500  
gaggccgagg cgggtagatc acctgaggtc aggagttaa gaccagcctg 1550

gccaacatgg tgaaccct gtcttacta aaaatacaaa aaaactagcc 1600  
 aggcattgtg gtgtgtgcct gtatcccagc tactcgggag gctgagacag 1650  
 gagaattact tgaacctggg aggtgaagga ggctgagaca ggagaatcac 1700  
 ttcagcctga gcaacacagc gagactctgt ctcagaaaaa ataaaaaaag 1750  
 aattatggtt atttgtaa 1768

<210> 304

<211> 109

<212> PRT

<213> Homo sapiens

<400> 304

Met Leu Trp Trp Leu Val Leu Leu Leu Leu Pro Thr Leu Lys Ser  
 1 5 10 15

Val Phe Cys Ser Leu Val Thr Ser Leu Tyr Leu Pro Asn Thr Glu  
 20 25 30

Asp Leu Ser Leu Trp Leu Trp Pro Lys Pro Asp Leu His Ser Gly  
 35 40 45

Thr Arg Thr Glu Val Ser Thr His Thr Val Pro Ser Lys Pro Gly  
 50 55 60

Thr Ala Ser Pro Cys Trp Pro Leu Ala Gly Ala Val Pro Ser Pro  
 65 70 75

Thr Val Ser Arg Leu Glu Ala Leu Thr Arg Ala Val Gln Val Ala  
 80 85 90

Glu Pro Leu Gly Ser Cys Gly Phe Gln Gly Gly Pro Cys Pro Gly  
 95 100 105

Arg Arg Arg Asp

<210> 305

<211> 989

<212> DNA

<213> Homo sapiens

<400> 305

gcggggccgc gaggccgaga cctgtcccag gagctccagc tcacgtgacc 50  
tgtcactgcc tcccgcgcc tctgtcccgc gccatgacct agccgggtgcc 100  
ccggctctcc gtgcccgcgc cgctggccct gggctcagcc gactggggcg 150  
ccgccttcgc cactggccctc ttctgggga ggcgggtgcc ccatggcga 200  
ggccggcgag agcagtgcct gttcccccc gagacagcc gcctgtggca 250  
gtatctctg agccgtcca tgcgggagca cccggcgctg cgaagcctga 300  
ggctgtgac cctggagcag ccgcaggggg attctatgat gacctgcgag 350  
cagggccagc tcttgccaa cctggcgcg ctcatccagg ccaagaaggc 400  
gctggacctg ggcacctca cgggctactc cgccctggcc ctggccctgg 450  
cgctgccgc ggacgggcgc gtgtgacct gcgaggtgga cgcgcagccc 500  
ccggagctgg gacggccct gtggaggcag gccgaggcgg agcacaagat 550  
cgacctccgg ctgaagccc cttggagac cctggacgag ctgctggcgg 600  
cgggcgaggc cggcacctc gacgtggccg tggatgatgc ggacaaggag 650  
aactgtccg cctactacga gcgtgcctg cagctgtgc gaccggagg 700  
catctcgcc gtctcagag tctgtggcg cgggaagggt ctgcaacctc 750  
cgaaagggga cgtggcgcc gagtgtgtgc gaaacctaaa cgaacgcatc 800  
cggcgggacg tcagggtcta catcagctc ctgccctgg gcgatggact 850  
caccttgcc ttcaagatct agggctggcc ctagtgagt gggctcgagg 900  
gagggttgc tgggaacccc aggaattgac cctgagttt aaattcgaaa 950  
ataaagtggg gctgggacac aaaaaaaaa aaaaaaaaa 989

<210> 306

<211> 262

<212> PRT

<213> Homo sapiens

<400> 306

Met Thr Gln Pro Val Pro Arg Leu Ser Val Pro Ala Ala Leu Ala  
1 5 10 15

Leu Gly Ser Ala Ala Leu Gly Ala Ala Phe Ala Thr Gly Leu Phe  
20 25 30

Leu Gly Arg Arg Cys Pro Pro Trp Arg Gly Arg Arg Glu Gln Cys  
35 40 45

Leu Leu Pro Pro Glu Asp Ser Arg Leu Trp Gln Tyr Leu Leu Ser  
50 55 60

Arg Ser Met Arg Glu His Pro Ala Leu Arg Ser Leu Arg Leu Leu  
65 70 75

Thr Leu Glu Gln Pro Gln Gly Asp Ser Met Met Thr Cys Glu Gln  
80 85 90

Ala Gln Leu Leu Ala Asn Leu Ala Arg Leu Ile Gln Ala Lys Lys  
95 100 105

Ala Leu Asp Leu Gly Thr Phe Thr Gly Tyr Ser Ala Leu Ala Leu  
110 115 120

Ala Leu Ala Leu Pro Ala Asp Gly Arg Val Val Thr Cys Glu Val  
125 130 135

Asp Ala Gln Pro Pro Glu Leu Gly Arg Pro Leu Trp Arg Gln Ala  
140 145 150

Glu Ala Glu His Lys Ile Asp Leu Arg Leu Lys Pro Ala Leu Glu  
155 160 165

Thr Leu Asp Glu Leu Leu Ala Ala Gly Glu Ala Gly Thr Phe Asp  
170 175 180

Val Ala Val Val Asp Ala Asp Lys Glu Asn Cys Ser Ala Tyr Tyr  
185 190 195

Glu Arg Cys Leu Gln Leu Leu Arg Pro Gly Gly Ile Leu Ala Val  
200 205 210

Leu Arg Val Leu Trp Arg Gly Lys Val Leu Gln Pro Pro Lys Gly  
215 220 225

Asp Val Ala Ala Glu Cys Val Arg Asn Leu Asn Glu Arg Ile Arg  
230 235 240

Arg Asp Val Arg Val Tyr Ile Ser Leu Leu Pro Leu Gly Asp Gly  
245 250 255

Leu Thr Leu Ala Phe Lys Ile  
260

<210> 307

<211> 2272

<212> DNA

<213> Homo sapiens

<400> 307

ccgccgccgc agccgctacc gccgctgcag ccgctttccg cggcctgggc 50  
ctctgccgt cagcatgccca cagccttca agccgggga ctggtgttc 100  
gctaagatga agggctaccc tcaatggcct gccaggatcg acgacatgc 150  
ggatggcgcc gtgaagcccc cacccaacaa gtacccatc ttttcttg 200  
gcacacacga aacagcttc ctgggacca aggacctgtt ccctacgac 250  
aaatgtaaag acaagtacgg gaagcccaac aagaggaaag gttcaatga 300  
agggtgtgg gagatccaga acaaccccc cgccagctac agcggccctc 350  
cgccagtgag ctctccgac agcgaggccc ccgaggcaa ccccgccgac 400  
ggcagtgacg ctgacgagga cgatgaggac cgggggggtca tggccgtcac 450  
agcggttaacc gccacagctg ccagcgacag gatggagagc gactcagact 500  
cagacaagag tagcgacaac agtggcctga agaggaagac gcctgcgcta 550  
aagatgtcgg tctcgaaacg agcccgaaag gcctccagcg acctggatca 600  
ggccagcgtg tccccatccg aagaggagaa ctcggaagc tcattgagt 650  
cggagaagac cagcgaccag gacttcacac ctgagaagaa agcagcggtc 700  
cgggcgccac ggagggggccc tctgggggga cggaaaaaa agaaggcgcc 750

gtcagcctcc gactccgact ccaaggccga ttcggacggg gccaaagcctg 800  
agccggtggc catggcgcgg tcggcgtcct cctcctctc ttctcctcc 850  
tcctccgact ccgatgtgtc tgtgaagaag cctccgaggg gcaggaagcc 900  
agcggagaag cctctccga agccgcgagg gcggaaccg aagcctgaac 950  
ggcctccgtc cagctccagc agtgacagt acagcgacga ggtggaccgc 1000  
atcagtgagt ggaagcggcg ggacgaggcg cggaggcgcg agctggaggc 1050  
ccggcgcgcg cgagagcagg aggaggagct gcggcgctg cgggagcagg 1100  
agaaggagga gaaggagcgg aggcgcgagc gggccgaccg cggggaggct 1150  
gagcggggca gcggcgagc cagcggggac gagctcaggg aggacgatga 1200  
gcccgtcaag aagcggggac gcaagggccg gggccggggt cccccgtct 1250  
cctctgactc cgagcccag gccgagctgg agagagaggc caagaaatca 1300  
gcgaagaagc cgcagtcctc aagcacagag ccgcccagga aacctggcca 1350  
gaaggagaag agagtgcggc ccgaggagaa gcaacaagcc aagcccgtga 1400  
aggtggagcg gacccggaag cggtcgagg gcttctgat ggacaggaag 1450  
gtagagaaga agaaagagcc ctccgtggag gagaagctgc agaagctgca 1500  
cagtgaatc aagtttccc taaaggtcga cagcccggac gtgaagaggt 1550  
gcctgaatgc ctagaggag ctgggaacc tgcagtgac ctctcagatc 1600  
ctccagaaga acacagacgt ggtggccacc ttgaagaaga ttcgccgta 1650  
caaagcgaac aaggacgtaa tggagaaggc agcagaagtc tatacccggc 1700  
tcaagtgcg ggtcctcggc ccaaagatcg aggcggtgca gaaagtgaac 1750  
aaggctggga tggagaagga gaaggccgag gagaagctgg ccggggagga 1800  
gctggccggg gaggaggccc ccaggagaa ggcggaggac aagcccagca 1850  
ccgatctctc agcccagtg aatggcgagg ccacatcaca gaagggggag 1900

agcgagagg acaaggagca cgaggagggt cgggactcgg aggagggggcc 1950  
 aaggtgtggc tcctctgaag acctgcacga cagcgtacgg gaggggtccc 2000  
 acctggacag gcctgggagc gaccggcagg agcgcgagag ggcacggggg 2050  
 gactcggagg ccctggacga ggagagctga gccgcgggca gccaggccca 2100  
 gccccgccc gagctcagge tgcccctctc cttccccggc tcgcaggaga 2150  
 gcagagcaga gaactgtggg gaacgtgtg ctgtttgtat ttgttcctt 2200  
 gggtttttt ttctgccta atttctgtga ttccaacca acatgaaatg 2250  
 actataaacg gtttttaat ga 2272

<210> 308

<211> 671

<212> PRT

<213> Homo sapiens

<400> 308

Met Pro His Ala Phe Lys Pro Gly Asp Leu Val Phe Ala Lys Met

1 5 10 15

Lys Gly Tyr Pro His Trp Pro Ala Arg Ile Asp Asp Ile Ala Asp

20 25 30

Gly Ala Val Lys Pro Pro Pro Asn Lys Tyr Pro Ile Phe Phe Phe

35 40 45

Gly Thr His Glu Thr Ala Phe Leu Gly Pro Lys Asp Leu Phe Pro

50 55 60

Tyr Asp Lys Cys Lys Asp Lys Tyr Gly Lys Pro Asn Lys Arg Lys

65 70 75

Gly Phe Asn Glu Gly Leu Trp Glu Ile Gln Asn Asn Pro His Ala

80 85 90

Ser Tyr Ser Ala Pro Pro Pro Val Ser Ser Ser Asp Ser Glu Ala

95 100 105

Pro Glu Ala Asn Pro Ala Asp Gly Ser Asp Ala Asp Glu Asp Asp

110 115 120



Glu Asp Arg Gly Val Met Ala Val Thr Ala Val Thr Ala Thr Ala  
125 130 135

Ala Ser Asp Arg Met Glu Ser Asp Ser Asp Ser Asp Lys Ser Ser  
140 145 150

Asp Asn Ser Gly Leu Lys Arg Lys Thr Pro Ala Leu Lys Met Ser  
155 160 165

Val Ser Lys Arg Ala Arg Lys Ala Ser Ser Asp Leu Asp Gln Ala  
170 175 180

Ser Val Ser Pro Ser Glu Glu Glu Asn Ser Glu Ser Ser Ser Glu  
185 190 195

Ser Glu Lys Thr Ser Asp Gln Asp Phe Thr Pro Glu Lys Lys Ala  
200 205 210

Ala Val Arg Ala Pro Arg Arg Gly Pro Leu Gly Gly Arg Lys Lys  
215 220 225

Lys Lys Ala Pro Ser Ala Ser Asp Ser Asp Ser Lys Ala Asp Ser  
230 235 240

Asp Gly Ala Lys Pro Glu Pro Val Ala Met Ala Arg Ser Ala Ser  
245 250 255

Ser Ser Ser Ser Ser Ser Ser Ser Ser Asp Ser Asp Val Ser Val  
260 265 270

Lys Lys Pro Pro Arg Gly Arg Lys Pro Ala Glu Lys Pro Leu Pro  
275 280 285

Lys Pro Arg Gly Arg Lys Pro Lys Pro Glu Arg Pro Pro Ser Ser  
290 295 300

Ser Ser Ser Asp Ser Asp Ser Asp Glu Val Asp Arg Ile Ser Glu  
305 310 315

Trp Lys Arg Arg Asp Glu Ala Arg Arg Arg Glu Leu Glu Ala Arg  
320 325 330

Arg Arg Arg Glu Gln Glu Glu Leu Arg Arg Leu Arg Glu Gln  
335 340 345

Glu Lys Glu Glu Lys Glu Arg Arg Arg Glu Arg Ala Asp Arg Gly  
350 355 360

Glu Ala Glu Arg Gly Ser Gly Gly Ser Ser Gly Asp Glu Leu Arg  
365 370 375

Glu Asp Asp Glu Pro Val Lys Lys Arg Gly Arg Lys Gly Arg Gly  
380 385 390

Arg Gly Pro Pro Ser Ser Ser Asp Ser Glu Pro Glu Ala Glu Leu  
395 400 405

Glu Arg Glu Ala Lys Lys Ser Ala Lys Lys Pro Gln Ser Ser Ser  
410 415 420

Thr Glu Pro Ala Arg Lys Pro Gly Gln Lys Glu Lys Arg Val Arg  
425 430 435

Pro Glu Glu Lys Gln Gln Ala Lys Pro Val Lys Val Glu Arg Thr  
440 445 450

Arg Lys Arg Ser Glu Gly Phe Ser Met Asp Arg Lys Val Glu Lys  
455 460 465

Lys Lys Glu Pro Ser Val Glu Glu Lys Leu Gln Lys Leu His Ser  
470 475 480

Glu Ile Lys Phe Ala Leu Lys Val Asp Ser Pro Asp Val Lys Arg  
485 490 495

Cys Leu Asn Ala Leu Glu Glu Leu Gly Thr Leu Gln Val Thr Ser  
500 505 510

Gln Ile Leu Gln Lys Asn Thr Asp Val Val Ala Thr Leu Lys Lys  
515 520 525

Ile Arg Arg Tyr Lys Ala Asn Lys Asp Val Met Glu Lys Ala Ala  
530 535 540

Glu Val Tyr Thr Arg Leu Lys Ser Arg Val Leu Gly Pro Lys Ile  
545 550 555

Glu Ala Val Gln Lys Val Asn Lys Ala Gly Met Glu Lys Glu Lys  
560 565 570

Ala Glu Glu Lys Leu Ala Gly Glu Glu Leu Ala Gly Glu Glu Ala  
575 580 585

Pro Gln Glu Lys Ala Glu Asp Lys Pro Ser Thr Asp Leu Ser Ala  
590 595 600

Pro Val Asn Gly Glu Ala Thr Ser Gln Lys Gly Glu Ser Ala Glu  
605 610 615

Asp Lys Glu His Glu Glu Gly Arg Asp Ser Glu Glu Gly Pro Arg  
620 625 630

Cys Gly Ser Ser Glu Asp Leu His Asp Ser Val Arg Glu Gly Pro  
635 640 645

Asp Leu Asp Arg Pro Gly Ser Asp Arg Gln Glu Arg Glu Arg Ala  
650 655 660

Arg Gly Asp Ser Glu Ala Leu Asp Glu Glu Ser  
665 670

<210> 309

<211> 3871

<212> DNA

<213> Homo sapiens

<400> 309

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cagcctcaat aattatatta aattaacacc atttgaaaga gaacattgtt 100

ttcatcatga atgctaataa agatgaaaga cttaaagcca gaagccaaga 150

tttcacctt tttcctgctt tgatgatgct aagcatgacc atgttgtttc 200

ttccagtcac tggcacttg aagcaaaata ttccaagact caagctaacc 250

tacaagact tgctgctttc aaatagctgt attccctttt tgggttcac 300

agaaggactg gattttcaaa ctctctctt agatgaggaa agaggcaggc 350

tgctcttggg agccaaagac cacatctttc tactcagtct gggtgactta 400

aacaaaaatt ttaagaagat ttattggcct gctgcaaagg aacgggtgga 450

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<211> 777

<212> PRT

<213> Homo sapiens

<400> 310

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Phe Leu Pro Val Thr Gly Thr Leu Lys Gln Asn Ile Pro Arg Leu  
35 40 45

Lys Leu Thr Tyr Lys Asp Leu Leu Leu Ser Asn Ser Cys Ile Pro  
50 55 60

Phe Leu Gly Ser Ser Glu Gly Leu Asp Phe Gln Thr Leu Leu Leu  
65 70 75

Asp Glu Glu Arg Gly Arg Leu Leu Leu Gly Ala Lys Asp His Ile  
80 85 90

Phe Leu Leu Ser Leu Val Asp Leu Asn Lys Asn Phe Lys Lys Ile  
95 100 105

Tyr Trp Pro Ala Ala Lys Glu Arg Val Glu Leu Cys Lys Leu Ala  
110 115 120

Gly Lys Asp Ala Asn Thr Glu Cys Ala Asn Phe Ile Arg Val Leu  
125 130 135

Gln Pro Tyr Asn Lys Thr His Ile Tyr Val Cys Gly Thr Gly Ala  
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Phe His Pro Ile Cys Gly Tyr Ile Asp Leu Gly Val Tyr Lys Glu  
155 160 165

Asp Ile Ile Phe Lys Leu Asp Thr His Asn Leu Glu Ser Gly Arg  
170 175 180

Leu Lys Cys Pro Phe Asp Pro Gln Gln Pro Phe Ala Ser Val Met  
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Thr Asp Glu Tyr Leu Tyr Ser Gly Thr Ala Ser Asp Phe Leu Gly  
200 205 210

Lys Asp Thr Ala Phe Thr Arg Ser Leu Gly Pro Thr His Asp His  
215 220 225

His Tyr Ile Arg Thr Asp Ile Ser Glu His Tyr Trp Leu Asn Gly  
230 235 240

Ala Lys Phe Ile Gly Thr Phe Phe Ile Pro Asp Thr Tyr Asn Pro  
245 250 255

Asp Asp Asp Lys Ile Tyr Phe Phe Phe Arg Glu Ser Ser Gln Glu  
260 265 270

Gly Ser Thr Ser Asp Lys Thr Ile Leu Ser Arg Val Gly Arg Val  
275 280 285

Cys Lys Asn Asp Val Gly Gly Gln Arg Ser Leu Ile Asn Lys Trp  
290 295 300

Thr Thr Phe Leu Lys Ala Arg Leu Ile Cys Ser Ile Pro Gly Ser  
305 310 315

Asp Gly Ala Asp Thr Tyr Phe Asp Glu Leu Gln Asp Ile Tyr Leu  
320 325 330

Leu Pro Thr Arg Asp Glu Arg Asn Pro Val Val Tyr Gly Val Phe  
335 340 345

Thr Thr Thr Ser Ser Ile Phe Lys Gly Ser Ala Val Cys Val Tyr  
350 355 360

Ser Met Ala Asp Ile Arg Ala Val Phe Asn Gly Pro Tyr Ala His  
365 370 375

Lys Glu Ser Ala Asp His Arg Trp Val Gln Tyr Asp Gly Arg Ile  
380 385 390

Pro Tyr Pro Arg Pro Gly Thr Cys Pro Ser Lys Thr Tyr Asp Pro  
395 400 405

Leu Ile Lys Ser Thr Arg Asp Phe Pro Asp Asp Val Ile Ser Phe  
410 415 420



Ile Lys Arg His Ser Val Met Tyr Lys Ser Val Tyr Pro Val Ala  
425 430 435

Gly Gly Pro Thr Phe Lys Arg Ile Asn Val Asp Tyr Arg Leu Thr  
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Gln Ile Val Val Asp His Val Ile Ala Glu Asp Gly Gln Tyr Asp  
455 460 465

Val Met Phe Leu Gly Thr Asp Ile Gly Thr Val Leu Lys Val Val  
470 475 480

Ser Ile Ser Lys Glu Lys Trp Asn Met Glu Glu Val Val Leu Glu  
485 490 495

Glu Leu Gln Ile Phe Lys His Ser Ser Ile Ile Leu Asn Met Glu  
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515 520 525

Leu Val Gln Leu Ser Leu His Arg Cys Asp Thr Tyr Gly Lys Ala  
530 535 540

Cys Ala Asp Cys Cys Leu Ala Arg Asp Pro Tyr Cys Ala Trp Asp  
545 550 555

Gly Asn Ala Cys Ser Arg Tyr Ala Pro Thr Ser Lys Arg Arg Ala  
560 565 570

Arg Arg Gln Asp Val Lys Tyr Gly Asp Pro Ile Thr Gln Cys Trp  
575 580 585

Asp Ile Glu Asp Ser Ile Ser His Glu Thr Ala Asp Glu Lys Val  
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Ile Phe Gly Ile Glu Phe Asn Ser Thr Phe Leu Glu Cys Ile Pro  
605 610 615

Lys Ser Gln Gln Ala Thr Ile Lys Trp Tyr Ile Gln Arg Ser Gly  
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Asp Glu His Arg Glu Glu Leu Lys Pro Asp Glu Arg Ile Ile Lys  
635 640 645

Thr Glu Tyr Gly Leu Leu Ile Arg Ser Leu Gln Lys Lys Asp Ser  
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Gly Met Tyr Tyr Cys Lys Ala Gln Glu His Thr Phe Ile His Thr  
665 670 675

Ile Val Lys Leu Thr Leu Asn Val Ile Glu Asn Glu Gln Met Glu  
680 685 690

Asn Thr Gln Arg Ala Glu His Glu Glu Gly Gln Val Lys Asp Leu  
695 700 705

Leu Ala Glu Ser Arg Leu Arg Tyr Lys Asp Tyr Ile Gln Ile Leu  
710 715 720

Ser Ser Pro Asn Phe Ser Leu Asp Gln Tyr Cys Glu Gln Met Trp  
725 730 735

His Arg Glu Lys Arg Arg Gln Arg Asn Lys Gly Gly Pro Lys Trp  
740 745 750

Lys His Met Gln Glu Met Lys Lys Lys Arg Asn Arg Arg His His  
755 760 765

Arg Asp Leu Asp Glu Leu Pro Arg Ala Val Ala Thr  
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<223> Synthetic oligonucleotide probe

<400> 311

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<210> 312

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 312

gcttgacat gtaccaggcc gtgg 24

<210> 313

<211> 45

<212> DNA

<213> Artificial Sequence

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<223> Synthetic oligonucleotide probe

<400> 313

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<210> 314

<211> 3934

<212> DNA

<213> Homo sapiens

<400> 314

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<211> 370

<212> PRT

<213> Homo sapiens

<400> 315

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Gln Arg Leu Glu Gln Arg Arg Gln Gln Ala Ser Glu Arg Glu Ala  
35 40 45

Pro Ser Ile Glu Gln Arg Leu Gln Glu Val Arg Glu Ser Ile Arg  
50 55 60

Arg Ala Gln Val Ser Gln Val Lys Gly Ala Ala Arg Leu Ala Leu  
65 70 75

Leu Gln Gly Ala Gly Leu Asp Val Glu Arg Trp Leu Lys Pro Ala  
80 85 90

Met Thr Gln Ala Gln Asp Glu Val Glu Gln Glu Arg Arg Leu Ser  
95 100 105

Glu Ala Arg Leu Ser Gln Arg Asp Leu Ser Pro Thr Ala Glu Asp  
110 115 120

Ala Glu Leu Ser Asp Phe Glu Glu Cys Glu Glu Thr Gly Glu Leu  
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Phe Glu Glu Pro Ala Pro Gln Ala Leu Ala Thr Arg Ala Leu Pro  
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Cys Pro Ala His Val Val Phe Arg Tyr Gln Ala Gly Arg Glu Asp  
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Glu Leu Thr Ile Thr Glu Gly Glu Trp Leu Glu Val Ile Glu Glu  
170 175 180

Gly Asp Ala Asp Glu Trp Val Lys Ala Arg Asn Gln His Gly Glu  
185 190 195

Val Gly Phe Val Pro Glu Arg Tyr Leu Asn Phe Pro Asp Leu Ser  
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Leu Pro Glu Ser Ser Gln Asp Ser Asp Asn Pro Cys Gly Ala Glu  
215 220 225

Pro Thr Ala Phe Leu Ala Gln Ala Leu Tyr Ser Tyr Thr Gly Gln  
230 235 240

Ser Ala Glu Glu Leu Ser Phe Pro Glu Gly Ala Leu Ile Arg Leu  
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Leu Pro Arg Ala Gln Asp Gly Val Asp Asp Gly Phe Trp Arg Gly  
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Glu Phe Gly Gly Arg Val Gly Val Phe Pro Ser Leu Leu Val Glu  
275 280 285

Glu Leu Leu Gly Pro Pro Gly Pro Pro Glu Leu Ser Asp Pro Glu  
290 295 300

Gln Met Leu Pro Ser Pro Ser Pro Pro Ser Phe Ser Pro Pro Ala  
305 310 315

Pro Thr Ser Val Leu Asp Gly Pro Pro Ala Pro Val Leu Pro Gly  
320 325 330

Asp Lys Ala Leu Asp Phe Pro Gly Phe Leu Asp Met Met Ala Pro  
335 340 345

Arg Leu Arg Pro Met Arg Pro Pro Pro Pro Pro Ala Lys Ala  
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Pro Asp Pro Gly His Pro Asp Pro Leu Thr  
365 370

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<211> 4407

<212> DNA

<213> Homo sapiens

<400> 316

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<210> 317

<211> 837

<212> PRT

<213> Homo sapiens

<400> 317

Met	Ser	Gln	Thr	Gly	Ser	His	Pro	Gly	Arg	Gly	Leu	Ala	Gly	Arg
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Trp	Leu	Trp	Gly	Ala	Gln	Pro	Cys	Leu	Leu	Leu	Pro	Ile	Val	Pro
		20			25			30						

Leu	Ser	Trp	Leu	Val	Trp	Leu	Leu	Leu	Leu	Leu	Ala	Ser	Leu
		35			40			45					

Leu Pro Ser Ala Arg Leu Ala Ser Pro Leu Pro Arg Glu Glu Glu  
50 55 60

Ile Val Phe Pro Glu Lys Leu Asn Gly Ser Val Leu Pro Gly Ser  
65 70 75

Gly Ala Pro Ala Arg Leu Leu Cys Arg Leu Gln Ala Phe Gly Glu  
80 85 90

Thr Leu Leu Leu Glu Leu Glu Gln Asp Ser Gly Val Gln Val Glu  
95 100 105

Gly Leu Thr Val Gln Tyr Leu Gly Gln Ala Pro Glu Leu Leu Gly  
110 115 120

Gly Ala Glu Pro Gly Thr Tyr Leu Thr Gly Thr Ile Asn Gly Asp  
125 130 135

Pro Glu Ser Val Ala Ser Leu His Trp Asp Gly Gly Ala Leu Leu  
140 145 150

Gly Val Leu Gln Tyr Arg Gly Ala Glu Leu His Leu Gln Pro Leu  
155 160 165

Glu Gly Gly Thr Pro Asn Ser Ala Gly Gly Pro Gly Ala His Ile  
170 175 180

Leu Arg Arg Lys Ser Pro Ala Ser Gly Gln Gly Pro Met Cys Asn  
185 190 195

Val Lys Ala Pro Leu Gly Ser Pro Ser Pro Arg Pro Arg Arg Ala  
200 205 210

Lys Arg Phe Ala Ser Leu Ser Arg Phe Val Glu Thr Leu Val Val  
215 220 225

Ala Asp Asp Lys Met Ala Ala Phe His Gly Ala Gly Leu Lys Arg  
230 235 240

Tyr Leu Leu Thr Val Met Ala Ala Ala Ala Lys Ala Phe Lys His  
245 250 255

Pro Ser Ile Arg Asn Pro Val Ser Leu Val Val Thr Arg Leu Val  
260 265 270

Ile Leu Gly Ser Gly Glu Glu Gly Pro Gln Val Gly Pro Ser Ala  
275 280 285

Ala Gln Thr Leu Arg Ser Phe Cys Ala Trp Gln Arg Gly Leu Asn  
290 295 300

Thr Pro Glu Asp Ser Gly Pro Asp His Phe Asp Thr Ala Ile Leu  
305 310 315

Phe Thr Arg Gln Asp Leu Cys Gly Val Ser Thr Cys Asp Thr Leu  
320 325 330

Gly Met Ala Asp Val Gly Thr Val Cys Asp Pro Ala Arg Ser Cys  
335 340 345

Ala Ile Val Glu Asp Asp Gly Leu Gln Ser Ala Phe Thr Ala Ala  
350 355 360

His Glu Leu Gly His Val Phe Asn Met Leu His Asp Asn Ser Lys  
365 370 375

Pro Cys Ile Ser Leu Asn Gly Pro Leu Ser Thr Ser Arg His Val  
380 385 390

Met Ala Pro Val Met Ala His Val Asp Pro Glu Glu Pro Trp Ser  
395 400 405

Pro Cys Ser Ala Arg Phe Ile Thr Asp Phe Leu Asp Asn Gly Tyr  
410 415 420

Gly His Cys Leu Leu Asp Lys Pro Glu Ala Pro Leu His Leu Pro  
425 430 435

Val Thr Phe Pro Gly Lys Asp Tyr Asp Ala Asp Arg Gln Cys Gln  
440 445 450

Leu Thr Phe Gly Pro Asp Ser Arg His Cys Pro Gln Leu Pro Pro  
455 460 465

Pro Cys Ala Ala Leu Trp Cys Ser Gly His Leu Asn Gly His Ala  
470 475 480

Met Cys Gln Thr Lys His Ser Pro Trp Ala Asp Gly Thr Pro Cys  
485 490 495

Gly Pro Ala Gln Ala Cys Met Gly Gly Arg Cys Leu His Met Asp  
500 505 510

Gln Leu Gln Asp Phe Asn Ile Pro Gln Ala Gly Gly Trp Gly Pro  
515 520 525

Trp Gly Pro Trp Gly Asp Cys Ser Arg Thr Cys Gly Gly Gly Val  
530 535 540

Gln Phe Ser Ser Arg Asp Cys Thr Arg Pro Val Pro Arg Asn Gly  
545 550 555

Gly Lys Tyr Cys Glu Gly Arg Arg Thr Arg Phe Arg Ser Cys Asn  
560 565 570

Thr Glu Asp Cys Pro Thr Gly Ser Ala Leu Thr Phe Arg Glu Glu  
575 580 585

Gln Cys Ala Ala Tyr Asn His Arg Thr Asp Leu Phe Lys Ser Phe  
590 595 600

Pro Gly Pro Met Asp Trp Val Pro Arg Tyr Thr Gly Val Ala Pro  
605 610 615

Gln Asp Gln Cys Lys Leu Thr Cys Gln Ala Arg Ala Leu Gly Tyr  
620 625 630

Tyr Tyr Val Leu Glu Pro Arg Val Val Asp Gly Thr Pro Cys Ser  
635 640 645

Pro Asp Ser Ser Ser Val Cys Val Gln Gly Arg Cys Ile His Ala  
650 655 660

Gly Cys Asp Arg Ile Ile Gly Ser Lys Lys Lys Phe Asp Lys Cys  
665 670 675

Met Val Cys Gly Gly Asp Gly Ser Gly Cys Ser Lys Gln Ser Gly  
680 685 690

Ser Phe Arg Lys Phe Arg Tyr Gly Tyr Asn Asn Val Val Thr Ile  
695 700 705

Pro Ala Gly Ala Thr His Ile Leu Val Arg Gln Gln Gly Asn Pro  
710 715 720

Gly His Arg Ser Ile Tyr Leu Ala Leu Lys Leu Pro Asp Gly Ser  
725 730 735

Tyr Ala Leu Asn Gly Glu Tyr Thr Leu Met Pro Ser Pro Thr Asp  
740 745 750

Val Val Leu Pro Gly Ala Val Ser Leu Arg Tyr Ser Gly Ala Thr  
755 760 765

Ala Ala Ser Glu Thr Leu Ser Gly His Gly Pro Leu Ala Gln Pro  
770 775 780

Leu Thr Leu Gln Val Leu Val Ala Gly Asn Pro Gln Asp Thr Arg  
785 790 795

Leu Arg Tyr Ser Phe Phe Val Pro Arg Pro Thr Pro Ser Thr Pro  
800 805 810

Arg Pro Thr Pro Gln Asp Trp Leu His Arg Arg Ala Gln Ile Leu  
815 820 825

Glu Ile Leu Arg Arg Arg Pro Trp Ala Gly Arg Lys  
830 835

<210> 318

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 318

ccctgaagct gccagatggc tcc 23

<210> 319

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 319

ctgtgctctt cggcgcagcc agtc 24



<210> 320

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 320

ccacagatgt ggtactgcct ggggcagtca gcttgcgcta cag 43

<210> 321

<211> 1197

<212> DNA

<213> Homo sapiens

<400> 321

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gagagacat ggcaaagaat cctccagaga attgtgaaga ctgtcacatt 100

ctaaatgcag aagcttttaa atccaagaaa atatgtaaat cacttaagat 150

ttgtggactg gtgtttgta tcttggcct aactctaatt gtctgtttt 200

gggggagcaa gcacttctgg ccggaggtag ccaaaaaagc ctatgacatg 250

gagcacactt tctacagcaa tggagagaag aagaagattt acatggaaat 300

tgatcctgtg accagaactg aaatattcag aagcggaaat ggcactgatg 350

aaacattgga agtgcacgac tttaaaaacg gatacactgg catctacttc 400

gtgggtcttc aaaaatgttt tatcaaaact cagattaaag tgattcctga 450

attttctgaa ccagaagagg aaatagatga gaatgaagaa attaccacaa 500

cttttttga acagtcagtg atttgggtcc cagcagaaaa gcctattgaa 550

aaccgagatt ttcttaaaaa ttccaaaatt ctggagattt gtgataacgt 600

gaccatgtat tggatcaatc cactctaat atcagtttct gagttacaag 650

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 atactgaaaa tggaatagaa ttgatccca tgctggatga gagaggttat 850  
 tgttgatatt actgccgtcg aggcaaccgc tattccgcc gcgtctgtga 900  
 acctttacta ggctactacc catatccata ctgtaccaa ggaggacgag 950  
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<210> 322

<211> 317

<212> PRT

<213> Homo sapiens

<400> 322

Met Ala Lys Asn Pro Pro Glu Asn Cys Glu Asp Cys His Ile Leu

1 5 10 15

Asn Ala Glu Ala Phe Lys Ser Lys Lys Ile Cys Lys Ser Leu Lys

20 25 30

Ile Cys Gly Leu Val Phe Gly Ile Leu Ala Leu Thr Leu Ile Val

35 40 45

Leu Phe Trp Gly Ser Lys His Phe Trp Pro Glu Val Pro Lys Lys

50 55 60

Ala Tyr Asp Met Glu His Thr Phe Tyr Ser Asn Gly Glu Lys Lys

65 70 75

Lys Ile Tyr Met Glu Ile Asp Pro Val Thr Arg Thr Glu Ile Phe

80 85 90

Arg Ser Gly Asn Gly Thr Asp Glu Thr Leu Glu Val His Asp Phe

95	100	105
Lys Asn Gly Tyr Thr Gly Ile Tyr Phe Val Gly Leu Gln Lys Cys		
110	115	120
Phe Ile Lys Thr Gln Ile Lys Val Ile Pro Glu Phe Ser Glu Pro		
125	130	135
Glu Glu Glu Ile Asp Glu Asn Glu Glu Ile Thr Thr Thr Phe Phe		
140	145	150
Glu Gln Ser Val Ile Trp Val Pro Ala Glu Lys Pro Ile Glu Asn		
155	160	165
Arg Asp Phe Leu Lys Asn Ser Lys Ile Leu Glu Ile Cys Asp Asn		
170	175	180
Val Thr Met Tyr Trp Ile Asn Pro Thr Leu Ile Ser Val Ser Glu		
185	190	195
Leu Gln Asp Phe Glu Glu Glu Gly Glu Asp Leu His Phe Pro Ala		
200	205	210
Asn Glu Lys Lys Gly Ile Glu Gln Asn Glu Gln Trp Val Val Pro		
215	220	225
Gln Val Lys Val Glu Lys Thr Arg His Ala Arg Gln Ala Ser Glu		
230	235	240
Glu Glu Leu Pro Ile Asn Asp Tyr Thr Glu Asn Gly Ile Glu Phe		
245	250	255
Asp Pro Met Leu Asp Glu Arg Gly Tyr Cys Cys Ile Tyr Cys Arg		
260	265	270
Arg Gly Asn Arg Tyr Cys Arg Arg Val Cys Glu Pro Leu Leu Gly		
275	280	285
Tyr Tyr Pro Tyr Pro Tyr Cys Tyr Gln Gly Gly Arg Val Ile Cys		
290	295	300
Arg Val Ile Met Pro Cys Asn Trp Trp Val Ala Arg Met Leu Gly		
305	310	315
Arg Val		

<210> 323

<211> 1174

<212> DNA

<213> Homo sapiens

<400> 323

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ggccgtgcag ctctgggct tcctgctcag ctctctgggc atggtgggca 150

cgttgatcac caccatctg ccgcactggc ggaggacagc gcacgtgggc 200

accaacatcc tcacggccgt gtcctacctg aaagggctct ggatggagtg 250

tgtgtggcac agcacaggca tctaccagtg ccagatctac cgaiccctgc 300

tggcgtgcc ccaagacctc caggctgccc gcgccctcat ggtcatctcc 350

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gcggcaccct ctctatctg gccggcctcc tgtgcatggt ggccgtctcc 500

tggaccacca acgacgtggt gcagaactc tacaaccgc tgctgccag 550

cggcatgaag ttgagattg gccaggccct gtacctgggc ttcatctct 600

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tacgtgtgag tccccacagc ctgcttctcc cctgggctgc tgtgggctgg 850

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ttctgggcaa ttttgtatc caaggaaata atgtgaatgc gaggaaatgt 950

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ataccaaaga ctgaaaaaaa aaatcctgtc tgtttttgta ttattatat 1050

atatattatgt gggtgatttg ataacaagtt taatataaag tgacttggga 1100

gtttggtcag tggggttggg ttgtgatcca ggaataaacc ttgcggatgt 1150

ggctgtttat gaaaaaaaaa aaaa 1174

<210> 324

<211> 239

<212> PRT

<213> Homo sapiens

<400> 324

Met Ala Ser Thr Ala Val Gln Leu Leu Gly Phe Leu Leu Ser Phe

1 5 10 15

Leu Gly Met Val Gly Thr Leu Ile Thr Thr Ile Leu Pro His Trp

20 25 30

Arg Arg Thr Ala His Val Gly Thr Asn Ile Leu Thr Ala Val Ser

35 40 45

Tyr Leu Lys Gly Leu Trp Met Glu Cys Val Trp His Ser Thr Gly

50 55 60

Ile Tyr Gln Cys Gln Ile Tyr Arg Ser Leu Leu Ala Leu Pro Gln

65 70 75

Asp Leu Gln Ala Ala Arg Ala Leu Met Val Ile Ser Cys Leu Leu

80 85 90

Ser Gly Ile Ala Cys Ala Cys Ala Val Ile Gly Met Lys Cys Thr

95 100 105

Arg Cys Ala Lys Gly Thr Pro Ala Lys Thr Thr Phe Ala Ile Leu

110 115 120

Gly Gly Thr Leu Phe Ile Leu Ala Gly Leu Leu Cys Met Val Ala

125 130 135

Val Ser Trp Thr Thr Asn Asp Val Val Gln Asn Phe Tyr Asn Pro

140 145 150

Leu Leu Pro Ser Gly Met Lys Phe Glu Ile Gly Gln Ala Leu Tyr  
155 160 165

Leu Gly Phe Ile Ser Ser Ser Leu Ser Leu Ile Gly Gly Thr Leu  
170 175 180

Leu Cys Leu Ser Cys Gln Asp Glu Ala Pro Tyr Arg Pro Tyr Gln  
185 190 195

Ala Pro Pro Arg Ala Thr Thr Thr Thr Ala Asn Thr Ala Pro Ala  
200 205 210

Tyr Gln Pro Pro Ala Ala Tyr Lys Asp Asn Arg Ala Pro Ser Val  
215 220 225

Thr Ser Ala Thr His Ser Gly Tyr Arg Leu Asn Asp Tyr Val  
230 235

<210> 325

<211> 2121

<212> DNA

<213> Homo sapiens

<400> 325

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cacatgccaa gtggtggcgt tctcctgtc catcctgggg ctggccggt 150

gcatgcggc caccgggatg gacatgtgga gcaccagga cctgtacgac 200

aaccccgta cctccgtgtt ccagtagcaa gggctctgga ggagctgcgt 250

gaggcagagt tcaggcttca ccgaatgcag gcctatttc accatcctgg 300

gactccagc catgctgcag gcagtgcgag ccctgatgat cgtaggcatc 350

gtcctgggtg ccattggcct cctggtatcc atctttgcc tgaaatgcat 400

ccgcattggc agcatggagg actctgcaa agccaacatg aactgacct 450

ccgggatcat gttcattgtc tcaggcttct gtgcaattgc tggagtgtct 500

gtgttgcca acatgctggt gactaacttc tggatgtcca cagctaacat 550

gtacaccggc atgggtggga tggcgagac tggtcagacc aggtacacat 600  
ttggcgccg tctgttcgtg ggctgggtcg ctggaggcct cacactaatt 650  
gggggtgtga tgatgtgat cgcctgccgg ggcctggcac cagaagaaac 700  
caactacaaa gccgtttctt atcatgcctc aggccacagt gttgcctaca 750  
agcctggagg ctcaaggcc agcactggct ttgggtccaa caccaaaaac 800  
aagaagatat acgatggagg tgccgcaca gaggacgagg tacaatctta 850  
tcctccaag cagactatg tgtaatgctc taagacctct cagcacgggc 900  
ggaagaaact cccggagagc tcacccaaaa aacaaggaga tcccatctag 950  
atttctctt gcttttgact cacagctgga agtagaaaa gcctcgattt 1000  
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tatccccaag aaaactttg aaaggaaaga gtagaccaa agatgttatt 1300  
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cacttactga agaagaagca ataagagaaa gatatttga atctctccag 1400  
cccatgatct cggttttctt aactgtgat cttaaaagt accaaaccaa 1450  
agtcattttc agttgaggc aaccaaact ttctactgct gttgacatct 1500  
tcttattaca gcaacacat tctaggagt ttctgagctc tccactggag 1550  
tcctcttct gtcggggtc agaaattgtc cctagatgaa tgagaaaatt 1600  
attttttta atttaagtcc taaatatagt taaaataaat aatgttttag 1650  
taaaatgata cactatctct gtgaaatagc ctaccacct catgtggata 1700

gaaggaaatg aaaaaataat tgctttgaca ttgtctatat ggtactttgt 1750  
 aaagtcatgc ttaagtacaa attccatgaa aagctcacac ctgtaatcct 1800  
 agcactttgg gaggtgagg aggaaggatc acttgagccc agaagttcga 1850  
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 aaaaaatcag ccagtcatgg tggcatacac ctgtatgcc agcattccgg 1950  
 gaggtgagg tgggaggatc acttgagccc agggaggttg gggctgcagt 2000  
 gagccatgat cacaccactg cactccagcc aggtgacata gcgagatcct 2050  
 gtctaaaaaa ataaaaata aataatggaa cacagcaagt cctaggaagt 2100  
 aggttaaaac taattcttta a 2121

<210> 326

<211> 261

<212> PRT

<213> Homo sapiens

<400> 326

Met	Ser	Thr	Thr	Thr	Cys	Gln	Val	Val	Ala	Phe	Leu	Leu	Ser	Ile
1		5			10				15					

Leu	Gly	Leu	Ala	Gly	Cys	Ile	Ala	Ala	Thr	Gly	Met	Asp	Met	Trp
	20				25				30					

Ser	Thr	Gln	Asp	Leu	Tyr	Asp	Asn	Pro	Val	Thr	Ser	Val	Phe	Gln
	35				40				45					

Tyr	Glu	Gly	Leu	Trp	Arg	Ser	Cys	Val	Arg	Gln	Ser	Ser	Gly	Phe
	50				55				60					

Thr	Glu	Cys	Arg	Pro	Tyr	Phe	Thr	Ile	Leu	Gly	Leu	Pro	Ala	Met
	65				70				75					

Leu	Gln	Ala	Val	Arg	Ala	Leu	Met	Ile	Val	Gly	Ile	Val	Leu	Gly
	80				85				90					

Ala	Ile	Gly	Leu	Leu	Val	Ser	Ile	Phe	Ala	Leu	Lys	Cys	Ile	Arg
	95				100				105					



Ile Gly Ser Met Glu Asp Ser Ala Lys Ala Asn Met Thr Leu Thr  
110 115 120

Ser Gly Ile Met Phe Ile Val Ser Gly Leu Cys Ala Ile Ala Gly  
125 130 135

Val Ser Val Phe Ala Asn Met Leu Val Thr Asn Phe Trp Met Ser  
140 145 150

Thr Ala Asn Met Tyr Thr Gly Met Gly Gly Met Val Gln Thr Val  
155 160 165

Gln Thr Arg Tyr Thr Phe Gly Ala Ala Leu Phe Val Gly Trp Val  
170 175 180

Ala Gly Gly Leu Thr Leu Ile Gly Gly Val Met Met Cys Ile Ala  
185 190 195

Cys Arg Gly Leu Ala Pro Glu Glu Thr Asn Tyr Lys Ala Val Ser  
200 205 210

Tyr His Ala Ser Gly His Ser Val Ala Tyr Lys Pro Gly Gly Phe  
215 220 225

Lys Ala Ser Thr Gly Phe Gly Ser Asn Thr Lys Asn Lys Lys Ile  
230 235 240

Tyr Asp Gly Gly Ala Arg Thr Glu Asp Glu Val Gln Ser Tyr Pro  
245 250 255

Ser Lys His Asp Tyr Val  
260

<210> 327

<211> 2010

<212> DNA

<213> Homo sapiens

<400> 327

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caacccatgc ctagaaatc gctgggctgt ttcttggtgg tgttgaatg 150

gtgggcacag tggctgtcac tgcatgcct cagtgagag tgcggcctt 200  
cattgaaaac aacatcgtgg ttttgaaaa ctctgggaa ggactgtga 250  
tgaattgcgt gaggcaggct aacatcagga tgcagtcaa aatctatgat 300  
tccttgcctg ctctttctcc ggacctacag gcagccagag gactgatgtg 350  
tgctgcttcc gtgatgtcct tcttggttt catgatggcc atccttggca 400  
tgaaatgcac caggtgcacg ggggacaatg agaagtgaa ggctcacatt 450  
ctgtgacgg ctggaatcat ctcatcatc acgggcatgg tgggtcat 500  
ccctgtgagc tgggttgcca atgcatcat cagagattc tataactcaa 550  
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<210> 328

<211> 225

<212> PRT

<213> Homo sapiens

<400> 328

Met	Ala	Thr	His	Ala	Leu	Glu	Ile	Ala	Gly	Leu	Phe	Leu	Gly	Gly
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Val	Gly	Met	Val	Gly	Thr	Val	Ala	Val	Thr	Val	Met	Pro	Gln	Trp
		20			25				30					

Arg	Val	Ser	Ala	Phe	Ile	Glu	Asn	Asn	Ile	Val	Val	Phe	Glu	Asn
		35			40				45					

Phe Trp Glu Gly Leu Trp Met Asn Cys Val Arg Gln Ala Asn Ile  
50 55 60

Arg Met Gln Cys Lys Ile Tyr Asp Ser Leu Leu Ala Leu Ser Pro  
65 70 75

Asp Leu Gln Ala Ala Arg Gly Leu Met Cys Ala Ala Ser Val Met  
80 85 90

Ser Phe Leu Ala Phe Met Met Ala Ile Leu Gly Met Lys Cys Thr  
95 100 105

Arg Cys Thr Gly Asp Asn Glu Lys Val Lys Ala His Ile Leu Leu  
110 115 120

Thr Ala Gly Ile Ile Phe Ile Ile Thr Gly Met Val Val Leu Ile  
125 130 135

Pro Val Ser Trp Val Ala Asn Ala Ile Ile Arg Asp Phe Tyr Asn  
140 145 150

Ser Ile Val Asn Val Ala Gln Lys Arg Glu Leu Gly Glu Ala Leu  
155 160 165

Tyr Leu Gly Trp Thr Thr Ala Leu Val Leu Ile Val Gly Gly Ala  
170 175 180

Leu Phe Cys Cys Val Phe Cys Cys Asn Glu Lys Ser Ser Ser Tyr  
185 190 195

Arg Tyr Ser Ile Pro Ser His Arg Thr Thr Gln Lys Ser Tyr His  
200 205 210

Thr Gly Lys Lys Ser Pro Ser Val Tyr Ser Arg Ser Gln Tyr Val  
215 220 225

<210> 329

<211> 1315

<212> DNA

<213> Homo sapiens

<400> 329

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gaccgctttc atcggaaca gcatcgtggt ggcccagggtg gtgtgggagg 150  
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gtgtacgact cactgctggc gctgccacag gacctgcagg ctgcacgtgc 250  
cctctgtgc atgcccicc ttgtggccct gtctggcttg ctggtctacc 300  
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gctaataccc gtgtgtgga cggcgcacgc catcatccgg gactctata 450  
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ctgcacttg cctcggggg ggtcccaggg cccagccat tacatggccc 600  
gctactcaac atctgccct gccatcttc gggggccctc tgagtacct 650  
accaagaatt acgtctgacg tggaggggaa tgggggctcc gctggcgcta 700  
gagccatcca gaagtggcag tgcccaacag cttgggatg ggttcgtacc 750  
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cctctgttc ctccgtcctg ataagacgtc cccccccag ggccaggctc 1200  
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gccccctcg tctaccccc ttacactca cattttatc aaataaagca 1300

tgtttgta gtgca 1315

<210> 330

<211> 220

<212> PRT

<213> Homo sapiens

<400> 330

Met Ala Ser Ala Gly Met Gln Ile Leu Gly Val Val Leu Thr Leu

1 5 10 15

Leu Gly Trp Val Asn Gly Leu Val Ser Cys Ala Leu Pro Met Trp

20 25 30

Lys Val Thr Ala Phe Ile Gly Asn Ser Ile Val Val Ala Gln Val

35 40 45

Val Trp Glu Gly Leu Trp Met Ser Cys Val Val Gln Ser Thr Gly

50 55 60

Gln Met Gln Cys Lys Val Tyr Asp Ser Leu Leu Ala Leu Pro Gln

65 70 75

Asp Leu Gln Ala Ala Arg Ala Leu Cys Val Ile Ala Leu Leu Val

80 85 90

Ala Leu Phe Gly Leu Leu Val Tyr Leu Ala Gly Ala Lys Cys Thr

95 100 105

Thr Cys Val Glu Glu Lys Asp Ser Lys Ala Arg Leu Val Leu Thr

110 115 120

Ser Gly Ile Val Phe Val Ile Ser Gly Val Leu Thr Leu Ile Pro

125 130 135

Val Cys Trp Thr Ala His Ala Ile Ile Arg Asp Phe Tyr Asn Pro

140 145 150

Leu Val Ala Glu Ala Gln Lys Arg Glu Leu Gly Ala Ser Leu Tyr

155 160 165

Leu Gly Trp Ala Ala Ser Gly Leu Leu Leu Leu Gly Gly Gly Leu

170 175 180

Leu Cys Cys Thr Cys Pro Ser Gly Gly Ser Gln Gly Pro Ser His  
185 190 195

Tyr Met Ala Arg Tyr Ser Thr Ser Ala Pro Ala Ile Ser Arg Gly  
200 205 210

Pro Ser Glu Tyr Pro Thr Lys Asn Tyr Val  
215 220

<210> 331

<211> 1160

<212> DNA

<213> Homo sapiens

<400> 331

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ttctacatct tgagcatctt ctaccactcc gaattgaacc agtcttcaaa 100

gtaaaggcaa tggcatttta tcccttgcaa attgctgggc tggttcttgg 150

gttccttggc atggtgggga ctcttgccac aacccttctg cctcagtgg 200

ggagtatcag cttttgttgg cagcaacatt attgtcttgg agaggctctg 250

ggaagggtc tgatgaatt gcatccgaca agccagggtc cggttgcaat 300

gcaagttcta tagctccttg ttggtctcc cgctgcctt ggaaacagcc 350

cgggccctca tgtgtgtggc tgttgcctc tccttgatcg ccctgcttat 400

tggcatctgt ggcatgaagc aggtccagtg cacaggctct aacgagaggg 450

ccaaagcata ccttctggga acttcaggag tcctcttcat cctgacgggt 500

atcttcgttc tgattccggt gagctggaca gccaatataa tcacagaga 550

ttctacaac ccagccatcc acataggta gaaacgagag ctgggagcag 600

cacttttctt tggctgggca agcgtgctg tcctcttcat tggaggggggt 650

ctgctttgtg gattttgtg ctgcaacaga aagaagcaag ggtacagata 700

tccagtgcct ggctaccgtg tgccacacac agataagcga agaaatacga 750

caatgcttag taagacctcc accagttatg tctaatagcct ccttttggct 800

ccaagtatgg actatgggtca atgtttttta taaagtcctg ctagaaactg 850

taagtatgtg aggacaggaga acttgcttta tgtctagatt tacattgata 900

cgaaagtttc aatttggttac tggtagtagg aatgaaaatg acttacttgg 950

acattctgac ttcaggtgta ttaaatacat tgactattgt tggacccaat 1000

cgctgctcca attttcatat tctaaattca agtataccca taatcattag 1050

caagtgtaca atgatggact acttattact tttgacat catgtattat 1100

ctgataagaa tctaaagttg aaattgatat tctataacaa taaaacatat 1150

acctattcta 1160

<210> 332

<211> 173

<212> PRT

<213> Homo sapiens

<400> 332

Met Asn Cys Ile Arg Gln Ala Arg Val Arg Leu Gln Cys Lys Phe

1 5 10 15

Tyr Ser Ser Leu Leu Ala Leu Pro Pro Ala Leu Glu Thr Ala Arg

20 25 30

Ala Leu Met Cys Val Ala Val Ala Leu Ser Leu Ile Ala Leu Leu

35 40 45

Ile Gly Ile Cys Gly Met Lys Gln Val Gln Cys Thr Gly Ser Asn

50 55 60

Glu Arg Ala Lys Ala Tyr Leu Leu Gly Thr Ser Gly Val Leu Phe

65 70 75

Ile Leu Thr Gly Ile Phe Val Leu Ile Pro Val Ser Trp Thr Ala

80 85 90

Asn Ile Ile Ile Arg Asp Phe Tyr Asn Pro Ala Ile His Ile Gly

95 100 105



Gln Lys Arg Glu Leu Gly Ala Ala Leu Phe Leu Gly Trp Ala Ser  
110 115 120

Ala Ala Val Leu Phe Ile Gly Gly Gly Leu Leu Cys Gly Phe Cys  
125 130 135

Cys Cys Asn Arg Lys Lys Gln Gly Tyr Arg Tyr Pro Val Pro Gly  
140 145 150

Tyr Arg Val Pro His Thr Asp Lys Arg Arg Asn Thr Thr Met Leu  
155 160 165

Ser Lys Thr Ser Thr Ser Tyr Val  
170

<210> 333

<211> 535

<212> DNA

<213> Homo sapiens

<400> 333

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ctcagaagct gctagtctgt ctccaaaaaa agtggactgc agcatttaca 150

agaagtatcc agtgggtggcc atcccctgcc ccatcacata cctaccagtt 200

tgtggttctg actacatcac ctatgggaat gaatgtcact tgtgtaccga 250

gagcttgaaa agtaatggaa gagttcagtt tcttcacgat ggaagttgct 300

aaattctcca tggacataga gagaaaggaa tgatattctc atcatcatct 350

tcatcatccc aggetctgac tgagtttctt tcagttttac tgatgttctg 400

ggtagggggac agagccagat tcagagtaat cttgactgaa tggagaaagt 450

ttctgtgcta cccctacaaa cccatgcctc actgacagac cagcattttt 500

ttttaacac gtcaataaaa aaataatctc ccaga 535

<210> 334

<211> 85

<212> PRT

<213> Homo sapiens

<400> 334

Met Lys Ile Thr Gly Gly Leu Leu Leu Leu Cys Thr Val Val Tyr

1 5 10 15

Phe Cys Ser Ser Ser Glu Ala Ala Ser Leu Ser Pro Lys Lys Val

20 25 30

Asp Cys Ser Ile Tyr Lys Lys Tyr Pro Val Val Ala Ile Pro Cys

35 40 45

Pro Ile Thr Tyr Leu Pro Val Cys Gly Ser Asp Tyr Ile Thr Tyr

50 55 60

Gly Asn Glu Cys His Leu Cys Thr Glu Ser Leu Lys Ser Asn Gly

65 70 75

Arg Val Gln Phe Leu His Asp Gly Ser Cys

80 85

<210> 335

<211> 742

<212> DNA

<213> Homo sapiens

<400> 335

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ctgctcgcgc cccgccgcca tggctgcctc ccccgcgagg cctgctgtcc 100

tggccctgac cgggctggcg ctgctcctgc tctgtgctg gggcccaggt 150

ggcataagtg gaaataaact caagctgatg cttcaaaaac gagaagcacc 200

tgttccaact aagactaaag tggccgttga tgagaataaa gccaaagaat 250

tccttggcag cctgaagcgc cagaagcggc agctgtggga ccggactcgg 300

cccgaggtgc agcagtggta ccagcagttt ctctacatgg gctttgatga 350

agcgaaattt gaagatgaca tcacctattg gcttaacaga gatcgaaatg 400

gacatgaata ctatggcgat tactaccaac gtcactatga tgaagactct 450

gcaattggtc cccggagccc ctacggcttt aggcatggag ccagcgtcaa 500

ctacgatgac tactaaccat gactgccac acgctgtaca agaagcaa 550

agcgattctc ttcattgata tcctaatgcc ttacactact tggtttctga 600

tttgccttat ttcagcagat cttttctacc tactttgtgt gatcaaaaaa 650

gaagagttaa aacaacacat gtaaagcct tttgatattt catgggaatg 700

cctctcattt aaaaatagaa ataaagcatt ttgttaaaaa ga 742

<210> 336

<211> 148

<212> PRT

<213> Homo sapiens

<400> 336

Met Ala Ala Ser Pro Ala Arg Pro Ala Val Leu Ala Leu Thr Gly

1 5 10 15

Leu Ala Leu Leu Leu Leu Cys Trp Gly Pro Gly Gly Ile Ser

20 25 30

Gly Asn Lys Leu Lys Leu Met Leu Gln Lys Arg Glu Ala Pro Val

35 40 45

Pro Thr Lys Thr Lys Val Ala Val Asp Glu Asn Lys Ala Lys Glu

50 55 60

Phe Leu Gly Ser Leu Lys Arg Gln Lys Arg Gln Leu Trp Asp Arg

65 70 75

Thr Arg Pro Glu Val Gln Gln Trp Tyr Gln Gln Phe Leu Tyr Met

80 85 90

Gly Phe Asp Glu Ala Lys Phe Glu Asp Asp Ile Thr Tyr Trp Leu

95 100 105

Asn Arg Asp Arg Asn Gly His Glu Tyr Tyr Gly Asp Tyr Tyr Gln

110 115 120

Arg His Tyr Asp Glu Asp Ser Ala Ile Gly Pro Arg Ser Pro Tyr

125 130 135

Gly Phe Arg His Gly Ala Ser Val Asn Tyr Asp Asp Tyr  
140 145

<210> 337

<211> 1310

<212> DNA

<213> Homo sapiens

<400> 337

cggctcgagc ccgcccggaa gtgcccgagg ggccgcgatg gagctggggg 50

agccggggcgc tcggtagcgc ggcgggcaag gcaggcgcca tgacctgat 100

tgaaggggtg ggtgatgagg tgaccgtcct ttctcgggtg cttgcctgcc 150

ttctggtgct ggcccttgcc tgggtctcaa cgcacaccgc tgagggcggg 200

gaccactgc cccagccgic agggacccca acgccatccc agccagcgc 250

agccatggca gctaccgaca gcatgagagg ggaggcccca ggggcagaga 300

ccccagcct gagacacaga ggtcaagctg cacagccaga gcccagcacg 350

gggttcacag caacaccgcc agccccggac tccccgcagg agcccctcgt 400

gctacggctg aaattctca atgattcaga gcagggtggc agggcctggc 450

cccacgacac cattggtcc ttgaaaagga cccagtttc cgcccgaggaa 500

cagcaggtgc gactcatcta ccaagggcag ctgctaggcg acgacacca 550

gacctgggc agccttcacc tcctcccaa ctgcgttct cactgccacg 600

tgccacgag agtcgggtccc ccaaateccc cctgcccgc ggggtccgag 650

cccgcccct ccgggctgga aatcggcagc ctgctgctgc ccctgctgct 700

cctgctgttg ctgctgctct ggtactgcca gatccagtac cgcccttct 750

ttccctgac cgccactctg ggcctggccg gcttcacct gctcctcagt 800

ctctggcct ttgcatgta ccgcccgtag tgctccgcg ggcgcttggc 850

agcgtcggc gccctccgg accttgctcc ccgcgccgc gcgggagctg 900

ctgcctgccc aggcccgccct ctccggcctg cctcttcccg ctgccctgga 950  
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 acgccaggtc ggtgggaggc tgggaaggg gagcggggag gggcagagga 1250  
 gttccccga acccgtgcag attaaagtaa ctgtgaagtt taaaaaaaaa 1300  
 aaaaaaaaaa 1310

<210> 338

<211> 246

<212> PRT

<213> Homo sapiens

<400> 338

Met Thr Leu Ile Glu Gly Val Gly Asp Glu Val Thr Val Leu Phe  
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Ser Val Leu Ala Cys Leu Leu Val Leu Ala Leu Ala Trp Val Ser  
           20          25          30

Thr His Thr Ala Glu Gly Gly Asp Pro Leu Pro Gln Pro Ser Gly  
           35          40          45

Thr Pro Thr Pro Ser Gln Pro Ser Ala Ala Met Ala Ala Thr Asp  
           50          55          60

Ser Met Arg Gly Glu Ala Pro Gly Ala Glu Thr Pro Ser Leu Arg  
           65          70          75

His Arg Gly Gln Ala Ala Gln Pro Glu Pro Ser Thr Gly Phe Thr  
           80          85          90

Ala Thr Pro Pro Ala Pro Asp Ser Pro Gln Glu Pro Leu Val Leu  
           95          100          105

Arg Leu Lys Phe Leu Asn Asp Ser Glu Gln Val Ala Arg Ala Trp  
110 115 120

Pro His Asp Thr Ile Gly Ser Leu Lys Arg Thr Gln Phe Pro Gly  
125 130 135

Arg Glu Gln Gln Val Arg Leu Ile Tyr Gln Gly Gln Leu Leu Gly  
140 145 150

Asp Asp Thr Gln Thr Leu Gly Ser Leu His Leu Pro Pro Asn Cys  
155 160 165

Val Leu His Cys His Val Ser Thr Arg Val Gly Pro Pro Asn Pro  
170 175 180

Pro Cys Pro Pro Gly Ser Glu Pro Gly Pro Ser Gly Leu Glu Ile  
185 190 195

Gly Ser Leu Leu Leu Pro Leu Leu Leu Leu Leu Leu Leu Leu  
200 205 210

Trp Tyr Cys Gln Ile Gln Tyr Arg Pro Phe Phe Pro Leu Thr Ala  
215 220 225

Thr Leu Gly Leu Ala Gly Phe Thr Leu Leu Leu Ser Leu Leu Ala  
230 235 240

Phe Ala Met Tyr Arg Pro  
245

<210> 339

<211> 849

<212> DNA

<213> Homo sapiens

<400> 339

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atgacaaagg cgctactcat ctattgggc agcagcttc ttgcctaaa 200

tcaggccagc ctcatcagtc gctgtgactt ggcccaggtg ctgcagctgg 250

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 acgattataa gagttactcg gaaaaccttt gccacgtaga ctgtcaagat 450  
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 aggggtcggg tgcaccgtgg agtcattcca agactcctgt cctcactcag 650  
 ggattcttca tttctcttc ctactgcctc cacttcatgt tattttcttc 700  
 ccttccatt tacaactaaa actgaccaga gccccaggaa taaatggttt 750  
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<210> 340

<211> 148

<212> PRT

<213> Homo sapiens

<400> 340

Met Thr Lys Ala Leu Leu Ile Tyr Leu Val Ser Ser Phe Leu Ala

1 5 10 15

Leu Asn Gln Ala Ser Leu Ile Ser Arg Cys Asp Leu Ala Gln Val

20 25 30

Leu Gln Leu Glu Asp Leu Asp Gly Phe Glu Gly Tyr Ser Leu Ser

35 40 45

Asp Trp Leu Cys Leu Ala Phe Val Glu Ser Lys Phe Asn Ile Ser

50 55 60

Lys Ile Asn Glu Asn Ala Asp Gly Ser Phe Asp Tyr Gly Leu Phe

65 70 75

Gln Ile Asn Ser His Tyr Trp Cys Asn Asp Tyr Lys Ser Tyr Ser  
80 85 90

Glu Asn Leu Cys His Val Asp Cys Gln Asp Leu Leu Asn Pro Asn  
95 100 105

Leu Leu Ala Gly Ile His Cys Ala Lys Arg Ile Val Ser Gly Ala  
110 115 120

Arg Gly Met Asn Asn Trp Val Glu Trp Arg Leu His Cys Ser Gly  
125 130 135

Arg Pro Leu Ser Tyr Trp Leu Thr Gly Cys Arg Leu Arg  
140 145

<210> 341

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 341

ccctccaagg atgacaaagg cgc 23

<210> 342

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 342

ggtcagcagc ttcttgccc taaatcagg 29

<210> 343

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe



<400> 343  
atctcaggcg gcatcctgtc agcc 24

<210> 344  
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<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 344  
gtggatgcct gcaagaaggt tggg 24

<210> 345  
<211> 45  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 345  
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<210> 346  
<211> 2575  
<212> DNA  
<213> Homo sapiens

<400> 346  
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caaaggggga aagaacacc tgaacagaat ggaatcatta ttttttccc 150  
  
aaggagaaaa ccgggggtaaa gggagggaag caattcaatt tgaagtcct 200  
  
gtgaatgggc ttccagaagg caattaaaga aatccactca gagaggactt 250  
  
gggggtgaaac ttgggtcctg tggtttctg attgtaagtg gaagcaggtc 300  
  
ttgcacacgc tgttggtgaaa tgtcaggacc aggttaagtg actggcagaa 350

aaacttcag gtggaacaag caacccatgt tctgctgcaa gcttgaagga 400  
gcctggagcg ggagaaagct aactgaaca tgacctgttg catttgcaa 450  
gttctagcaa catgctccta aggaagcga acaggcacag accatgcaga 500  
ctccagtcc tctgctgct cctgatgctg ggatgcgtcc tgatgatgt 550  
ggcgatgttg caccctcccc accacacct gcaccagact gtcacagccc 600  
aagccagcaa gcacagccct gaagccaggt accgcctgga ctttggggaa 650  
tcccaggatt ggggtactgga agctgaggat gagggtgaag agtacagccc 700  
tctggagggc ctgccacct ttatctcact gcgggaggat cagctgctgg 750  
tgcccgggc cttacccag gccagaagga accagagcca gggcaggaga 800  
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<211> 639

<212> PRT

<213> Homo sapiens

<400> 347

Met Leu Leu Arg Lys Arg Tyr Arg His Arg Pro Cys Arg Leu Gln  
1 5 10 15

Phe Leu Leu Leu Leu Leu Met Leu Gly Cys Val Leu Met Met Val  
20 25 30

Ala Met Leu His Pro Pro His His Thr Leu His Gln Thr Val Thr  
35 40 45

Ala Gln Ala Ser Lys His Ser Pro Glu Ala Arg Tyr Arg Leu Asp  
50 55 60

Phe Gly Glu Ser Gln Asp Trp Val Leu Glu Ala Glu Asp Glu Gly  
65 70 75

Glu Glu Tyr Ser Pro Leu Glu Gly Leu Pro Pro Phe Ile Ser Leu  
80 85 90

Arg Glu Asp Gln Leu Leu Val Ala Val Ala Leu Pro Gln Ala Arg  
95 100 105

Arg Asn Gln Ser Gln Gly Arg Arg Gly Gly Ser Tyr Arg Leu Ile  
110 115 120

Lys Gln Pro Arg Arg Gln Asp Lys Glu Ala Pro Lys Arg Asp Trp  
125 130 135

Gly Ala Asp Glu Asp Gly Glu Val Ser Glu Glu Glu Glu Leu Thr  
140 145 150

Pro Phe Ser Leu Asp Pro Arg Gly Leu Gln Glu Ala Leu Ser Ala  
155 160 165

Arg Ile Pro Leu Gln Arg Ala Leu Pro Glu Val Arg His Pro Leu  
170 175 180

Cys Leu Gln Gln His Pro Gln Asp Ser Leu Pro Thr Ala Ser Val  
185 190 195

Ile Leu Cys Phe His Asp Glu Ala Trp Ser Thr Leu Leu Arg Thr

200	205	210
Val His Ser Ile Leu Asp Thr Val Pro Arg Ala Phe Leu Lys Glu		
215	220	225
Ile Ile Leu Val Asp Asp Leu Ser Gln Gln Gly Gln Leu Lys Ser		
230	235	240
Ala Leu Ser Glu Tyr Val Ala Arg Leu Glu Gly Val Lys Leu Leu		
245	250	255
Arg Ser Asn Lys Arg Leu Gly Ala Ile Arg Ala Arg Met Leu Gly		
260	265	270
Ala Thr Arg Ala Thr Gly Asp Val Leu Val Phe Met Asp Ala His		
275	280	285
Cys Glu Cys His Pro Gly Trp Leu Glu Pro Leu Leu Ser Arg Ile		
290	295	300
Ala Gly Asp Arg Ser Arg Val Val Ser Pro Val Ile Asp Val Ile		
305	310	315
Asp Trp Lys Thr Phe Gln Tyr Tyr Pro Ser Lys Asp Leu Gln Arg		
320	325	330
Gly Val Leu Asp Trp Lys Leu Asp Phe His Trp Glu Pro Leu Pro		
335	340	345
Glu His Val Arg Lys Ala Leu Gln Ser Pro Ile Ser Pro Ile Arg		
350	355	360
Ser Pro Val Val Pro Gly Glu Val Val Ala Met Asp Arg His Tyr		
365	370	375
Phe Gln Asn Thr Gly Ala Tyr Asp Ser Leu Met Ser Leu Arg Gly		
380	385	390
Gly Glu Asn Leu Glu Leu Ser Phe Lys Ala Trp Leu Cys Gly Gly		
395	400	405
Ser Val Glu Ile Leu Pro Cys Ser Arg Val Gly His Ile Tyr Gln		
410	415	420
Asn Gln Asp Ser His Ser Pro Leu Asp Gln Glu Ala Thr Leu Arg		

425	430	435
Asn Arg Val Arg Ile Ala Glu Thr Trp Leu Gly Ser Phe Lys Glu		
440	445	450
Thr Phe Tyr Lys His Ser Pro Glu Ala Phe Ser Leu Ser Lys Ala		
455	460	465
Glu Lys Pro Asp Cys Met Glu Arg Leu Gln Leu Gln Arg Arg Leu		
470	475	480
Gly Cys Arg Thr Phe His Trp Phe Leu Ala Asn Val Tyr Pro Glu		
485	490	495
Leu Tyr Pro Ser Glu Pro Arg Pro Ser Phe Ser Gly Lys Leu His		
500	505	510
Asn Thr Gly Leu Gly Leu Cys Ala Asp Cys Gln Ala Glu Gly Asp		
515	520	525
Ile Leu Gly Cys Pro Met Val Leu Ala Pro Cys Ser Asp Ser Arg		
530	535	540
Gln Gln Gln Tyr Leu Gln His Thr Ser Arg Lys Glu Ile His Phe		
545	550	555
Gly Ser Pro Gln His Leu Cys Phe Ala Val Arg Gln Glu Gln Val		
560	565	570
Ile Leu Gln Asn Cys Thr Glu Glu Gly Leu Ala Ile His Gln Gln		
575	580	585
His Trp Asp Phe Gln Glu Asn Gly Met Ile Val His Ile Leu Ser		
590	595	600
Gly Lys Cys Met Glu Ala Val Val Gln Glu Asn Asn Lys Asp Leu		
605	610	615
Tyr Leu Arg Pro Cys Asp Gly Lys Ala Arg Gln Gln Trp Arg Phe		
620	625	630
Asp Gln Ile Asn Ala Val Asp Glu Arg		
635		

<210> 348

<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 348  
ggagaggtgg tggccatgga cag 23

<210> 349  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 349  
ctgtcactgc aaggagccaa cacc 24

<210> 350  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 350  
tatgtcgtg cgaggtggtg aaaacctga actgtctttc aaggc 45

<210> 351  
<211> 2524  
<212> DNA  
<213> Homo sapiens

<400> 351  
cgccaagcat gcagtaaagg ctgaaaatct gggtcacagc tgaggaagac 50  
ctcagacatg gaggccagga tgggcctgc gctgctgctg tcccacctcc 100  
tcctctctg gccactgctg ttgtgcccc tcccaccgcc tgctcagggc 150  
tcttcacct cccctgaac cccaccagcc ccagccgcc cccgtgtgc 200

caggggagggc ccctcggccc cacgtcatgt gtgcgtgtgg gagcgagcac 250  
ctccaccaag ccgatctcct cgggtcccaa gatcacgtcg gcaagtcctg 300  
cctggcactg cacccccagc caccccatca ggctttgagg agggggccgcc 350  
ctcatcccaa tacccttggg ctatcgtgtg ggggccacc gtgtctcag 400  
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tttgagccc ctcatgggct cgcaaccca caccacaact cagactccat 500  
gcgaggtgat ggagatgggc ttatccttgg agaggcacct gccaccctgc 550  
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gtcacaatta ccattccat catcattgtt ctctggcca ctggcatcat 650  
cttcaagttc tgctgggacc gcagccagaa gcgacgcaga ccctcagggc 700  
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caccctgac catgaggagc cccgaggggg accccggcct gggatgcccc 850  
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aactccaact ctgccctctt tggtttttc tcatgccacc ttgtctaaga 1150  
caactctgcc ctcttaacct tgattcccc tctttgtctt gaactcccc 1200  
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tctcaggatt cccctggtga atctgtgatg ccccaatgt tggggtgcag 1300  
ccaagcagga ggccaagggg ccggcacagc ccccatcca ctgagggtgg 1350



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tcaaataaag cctttgcaag ataa 2524

<210> 352

<211> 243

<212> PRT

<213> Homo sapiens

<400> 352

Met Arg Pro Gln Gly Pro Ala Ala Ser Pro Gln Arg Leu Arg Gly  
1 5 10 15

Leu Leu Leu Leu Leu Leu Leu Gln Leu Pro Ala Pro Ser Ser Ala  
20 25 30

Ser Glu Ile Pro Lys Gly Lys Gln Lys Ala Gln Leu Arg Gln Arg  
35 40 45

Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala  
50 55 60

Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Val Ile Pro  
65 70 75

Gly Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys  
80 85 90

Gly Glu Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn  
95 100 105

Tyr Lys Gln Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu  
110 115 120

Gly Lys Ile Ala Glu Cys Thr Phe Thr Lys Met Arg Ser Asn Ser  
125 130 135

Ala Leu Arg Val Leu Phe Ser Gly Ser Leu Arg Leu Lys Cys Arg  
140 145 150

Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr Phe Asn Gly Ala Glu  
155 160 165

Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile Tyr Leu Asp Gln  
170 175 180

Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His Arg Thr Ser

185	190	195
Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu Val Asp		
200	205	210
Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly Asp		
215	220	225
Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Ile Glu Glu		
230	235	240

Leu Pro Lys

<210> 353

<211> 480

<212> DNA

<213> Homo sapiens

<400> 353

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tccggggttc tggccctgc ggtgctcaca gacgatgttc cacaggagcc 150

cgtgccacg ctgtggaacg agccggccga gctgccgtcg ggagaaggcc 200

ccgtggagag caccagcccc ggccgggagc ccgtggacac cgtccccca 250

gccccaccg tcgcgccagg acccgaggac agcaccgcgc aggagcggct 300

ggaccagggc ggcgggtcgc tggggcccg cgctatcgc gccatcgtga 350

tcgccgcct gctggccacc tgcgtggtgc tggcgctcgt ggtcgtcgcg 400

ctgagaaagt ttctgcctc ctgaagcgaa taaaggggcc gcgcccggcc 450

gcggcgcgac tcggcaaaaa aaaaaaaaaa 480

<210> 354

<211> 121

<212> PRT

<213> Homo sapiens

<400> 354.

Met Ala Ser Cys Leu Ala Leu Arg Met Ala Leu Leu Leu Val Ser  
1 5 10 15

Gly Val Leu Ala Pro Ala Val Leu Thr Asp Asp Val Pro Gln Glu  
20 25 30

Pro Val Pro Thr Leu Trp Asn Glu Pro Ala Glu Leu Pro Ser Gly  
35 40 45

Glu Gly Pro Val Glu Ser Thr Ser Pro Gly Arg Glu Pro Val Asp  
50 55 60

Thr Gly Pro Pro Ala Pro Thr Val Ala Pro Gly Pro Glu Asp Ser  
65 70 75

Thr Ala Gln Glu Arg Leu Asp Gln Gly Gly Gly Ser Leu Gly Pro  
80 85 90

Gly Ala Ile Ala Ala Ile Val Ile Ala Ala Leu Leu Ala Thr Cys  
95 100 105

Val Val Leu Ala Leu Val Val Val Ala Leu Arg Lys Phe Ser Ala  
110 115 120

Ser

<210> 355

<211> 2134

<212> DNA

<213> Homo sapiens

<400> 355

ggccgttggt tggcgcgagg ctgaagggtg tggcgcgagg agcgctggtg 50

gttgccggc ggccggccgg gacgggcatg gccctgctgc tgtgcctggt 100

gtgcctgacg gcggcgctgg cccacggctg tctgactgc cacagcaact 150

tctccaagaa gtctcttc taccgccacc atgtgaactt caagtcctgg 200

tgggtgggag acatccccgt gtcaggggag ctgtcaccg actggagcga 250

cgacacgatg aaggagctgc acctggccat ccccgccaag atccccggg 300

agaagctgga ccaagtggcg acagcagtgt accagatgat ggatcagctg 350  
taccagggga agatgtactt ccccgggtat ttccccaacg agctgcgaaa 400  
catcttccgg gagcaggtgc acctcatcca gaacgccatc atcgaaaggc 450  
acctggcacc aggcagctgg ggaggagggc agctctccag ggagggaccc 500  
agcctagcac ctgaaggatc aatgccatca ccccgcgggg acctccccta 550  
agtagcccc agaggcgctg ggagtgtgc caccgccctc ccctgaagtt 600  
tgctccatct cacgctgggg gtcaacctgg ggacccttc cctccgggcc 650  
atggacacac atacatgaaa accaggccgc atcgactgc agcaccgctg 700  
tggcatcttc cagtacgaga ccctctctg caacaactgc acagactcgc 750  
acgtgcctg ctttggtat aactgcgagt agggctcagg catcacacc 800  
acctgtcca gggeccact gtccctgggg tcccaggctc tccttgagg 850  
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cgtgggtgag tatgtgtgg gcacaggctg gctccctcag ctcccacgtc 1100  
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cgggcatctt tctaaaggg tcccatagg gtctggttc acccatccc 1250  
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ccatggaggg gctgactgcc ccacattgcc ttccagacag gacacagca 1350  
tgaggtagg ccgccctgac ctggactca gggggagggg gtaaaggag 1400  
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 cgaccccgga cagagctgag ctggccaggg ccaggagggc gggaggagg 2050  
 gaatgggggt gggctgtgcg cagcatcagc gcctgggcag gtccgcagag 2100  
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<210> 356

<211> 157

<212> PRT

<213> Homo sapiens

<400> 356

Met Ala Leu Leu Leu Cys Leu Val Cys Leu Thr Ala Ala Leu Ala

1 5 10 15

His Gly Cys Leu His Cys His Ser Asn Phe Ser Lys Lys Phe Ser

20 25 30

Phe Tyr Arg His His Val Asn Phe Lys Ser Trp Trp Val Gly Asp

35 40 45

Ile Pro Val Ser Gly Ala Leu Leu Thr Asp Trp Ser Asp Asp Thr

50 55 60

Met Lys Glu Leu His Leu Ala Ile Pro Ala Lys Ile Thr Arg Glu  
65 70 75

Lys Leu Asp Gln Val Ala Thr Ala Val Tyr Gln Met Met Asp Gln  
80 85 90

Leu Tyr Gln Gly Lys Met Tyr Phe Pro Gly Tyr Phe Pro Asn Glu  
95 100 105

Leu Arg Asn Ile Phe Arg Glu Gln Val His Leu Ile Gln Asn Ala  
110 115 120

Ile Ile Glu Arg His Leu Ala Pro Gly Ser Trp Gly Gly Gly Gln  
125 130 135

Leu Ser Arg Glu Gly Pro Ser Leu Ala Pro Glu Gly Ser Met Pro  
140 145 150

Ser Pro Arg Gly Asp Leu Pro  
155

<210> 357

<211> 1536

<212> DNA

<213> Homo sapiens

<400> 357

agcaggagca ggagagggac aatggaagct gccccgtcca ggttcattgt 50

cctcttattt ctcttcacgt gtgagctggc tgcagaagtt gctgcagaag 100

ttgagaaatc ctcataggt cctgggtgctg cccaggaacc cacgtggctc 150

acagatgtcc cagctgccat ggaattcatt gctgccactg aggtggctgt 200

cataggcttc ttccaggatt tagaaatacc agcagtgtccc atactccata 250

gcatggtgca aaaattccca ggcgtgtcat ttgggatcag cactgattct 300

gaggttctga cactacaa catcactggg aacaccatct gcctctttcg 350

cctggtagac aatgaacaac tgaatttaga ggacgaagac attgaaagca 400

ttgatgccac caaattgagc cgttcattg agatcaacag cctccacatg 450

gtgacagagt acaaccctgt gactgtgatt gggttattca acagegtaat 500  
tcagattcat ctctctctga taatgaacaa ggcctcccca gatatgaag 550  
agaacatgca cagataccag aaggcagcca agctcttcca ggggaagatt 600  
ctctttattc tggaggacag tggatatgaa gaaaatggga aggtgatatc 650  
attttcaaa ctaaaggagt ctcaactgcc agctttggca atttaccaga 700  
ctctagatga cgagtgggat aactgccc cagcagaagt ticcgtagag 750  
catgtgcaaa acttttgtga tggattccta agtggaaaat tgttgaaaga 800  
aaatcgtgaa tcagaaggaa agactccaaa ggtggaactc tgacttctcc 850  
ttggaactac atatggccaa gtatctactt tatgcaaagt aaaaaggcac 900  
aactcaaate tcagagacac taaacaacag gatcactagg cctgccaacc 950  
acacacacac gcacgtgcac acacgcacgc acgcgtgcac acacacacgc 1000  
gcacacacac acacacacag agcttcattt cctgtcttaa aatctegttt 1050  
tctcttcttc cttcttttaa atttcatac ctactccct atccaatttc 1100  
cttcttatcg tgcattcata ctctgtaagc ccatctgtaa cacacctaga 1150  
tcaaggcttt aagagactca ctgtgatgcc tctatgaaag agaggcattc 1200  
ctagagaaaag attgtccaa ttgtcattt aatatcaagt ttgtatactg 1250  
cacatgactt acacacaaca tagttcctgc tctttaagg ttacctaagg 1300  
gttgaaactc taccttcttt cataagcaca tgtccgtctc tgactcagga 1350  
tcaaaaacca aaggatggtt ttaaacacct ttgtgaaatt gtcttttgc 1400  
cagaagttaa aggctgtctc caagtcctg aactcagcag aaatagacca 1450  
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caacctgcat aataaataaa aggcaatcat gttata 1536



<211> 273

<212> PRT

<213> Homo sapiens

<400> 358

Met Glu Ala Ala Pro Ser Arg Phe Met Phe Leu Leu Phe Leu Leu  
1 5 10 15

Thr Cys Glu Leu Ala Ala Glu Val Ala Ala Glu Val Glu Lys Ser  
20 25 30

Ser Asp Gly Pro Gly Ala Ala Gln Glu Pro Thr Trp Leu Thr Asp  
35 40 45

Val Pro Ala Ala Met Glu Phe Ile Ala Ala Thr Glu Val Ala Val  
50 55 60

Ile Gly Phe Phe Gln Asp Leu Glu Ile Pro Ala Val Pro Ile Leu  
65 70 75

His Ser Met Val Gln Lys Phe Pro Gly Val Ser Phe Gly Ile Ser  
80 85 90

Thr Asp Ser Glu Val Leu Thr His Tyr Asn Ile Thr Gly Asn Thr  
95 100 105

Ile Cys Leu Phe Arg Leu Val Asp Asn Glu Gln Leu Asn Leu Glu  
110 115 120

Asp Glu Asp Ile Glu Ser Ile Asp Ala Thr Lys Leu Ser Arg Phe  
125 130 135

Ile Glu Ile Asn Ser Leu His Met Val Thr Glu Tyr Asn Pro Val  
140 145 150

Thr Val Ile Gly Leu Phe Asn Ser Val Ile Gln Ile His Leu Leu  
155 160 165

Leu Ile Met Asn Lys Ala Ser Pro Glu Tyr Glu Glu Asn Met His  
170 175 180

Arg Tyr Gln Lys Ala Ala Lys Leu Phe Gln Gly Lys Ile Leu Phe  
185 190 195

Ile Leu Val Asp Ser Gly Met Lys Glu Asn Gly Lys Val Ile Ser

200	205	210
Phe Phe Lys Leu Lys Glu Ser Gln Leu Pro Ala Leu Ala Ile Tyr		
215	220	225
Gln Thr Leu Asp Asp Glu Trp Asp Thr Leu Pro Thr Ala Glu Val		
230	235	240
Ser Val Glu His Val Gln Asn Phe Cys Asp Gly Phe Leu Ser Gly		
245	250	255
Lys Leu Leu Lys Glu Asn Arg Glu Ser Glu Gly Lys Thr Pro Lys		
260	265	270
Val Glu Leu		

<210> 359  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 359  
 ccagcagtgc ccatactcca tagc 24

<210> 360  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Synthetic oligonucleotide probe

<400> 360  
 tgacgagtgg gatacactgc 20

<210> 361  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 361

gctctacgga aacttctgct gtgg 24

<210> 362

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 362

attcccaggc gtgtcatttg ggatcagcac tgattctgag gttctgacac 50

<210> 363

<211> 1777

<212> DNA

<213> Homo sapiens

<400> 363

ggagagccgc ggctgggacc ggagtgggga gcgcggcgtg gagtgccac 50

ccggcgcggg tggcggagag atcagaagcc tcttcccaa gccgagccaa 100

cctcagcggg gacccgggct cagggaacgc gcggcggcgg cggcgactgc 150

agtggctgga cgatggcagc gtccgccgga gccggggcgg tgattgcagc 200

cccagacagc cggcgctggc tgtggtcggg gctggcggcg gcgcttgggc 250

tcttgacagc tggagtatca gccttggaag tatatacgcc aaaagaaatc 300

ttcgtggcaa atggtacaca agggaagctg acctgcaagt tcaagtctac 350

tagtacgact ggcgggttga cctcagtcct ctggagcttc cagccagagg 400

gggccgacac tactgtgtcg ttttccact actcccaagg gcaagtgtac 450

cttgggaatt atccaccatt taaagacaga atcagctggg ctggagacct 500

tgacaagaaa gatgcatcaa tcaacataga aaatatgcag ttatacaca 550

atggcaccta tatctgtgat gtcaaaaacc ctctgacat cgtgtgccag 600

cctggacaca ttaggctcta tgcgtagaa aaagagaatt tgcctgtgt 650  
tccagtttgg gtagtggtgg gcatagttac tgctgtggc ctaggtctca 700  
ctctgctcat cagcatgatt ctggctgtcc tctatagaag gaaaaactct 750  
aaacgggatt acactggctg cagtacatca gagagtttgt caccagttaa 800  
gcaggctcct cggaagtccc cctccgacac tgagggtctt gtaaagagtc 850  
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tccggcggac atcacagtga caagattaac aagtcagagt ctgtggtgta 950  
tgcggatatc cgaaagaatt aagagaatac ctagaacata tctcagcaa 1000  
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ggagagaaag atgtgtacaa aggatatgta taaatattct atttagtcat 1150  
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atatgtacc attgtcttgc tgttttga ctttctttc aggtcattta 1250  
caattgggag atttcagaaa cattccttc accatcattt agaaatggtt 1300  
tgccttaatg gagacaatag cagatcctgt agtatttcca gtagacatgg 1350  
ccttttaac taagggtta agactgatta gtcttagcat ttactgtagt 1400  
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aaaatatggg gcaattgtta gccttacatg ttgtgtagac ttactttaag 1600  
tttgaccct tgaaatgtgt catatcaatt tetggattca taatagcaag 1650  
attagcaaag gataaatgcc gaagtcact tcattctgga cacagttgga 1700  
tcaatactga ttaagtagaa aatccaagct ttgcttgaga acttttgtaa 1750

cgtggagagt aaaaagtatc gggttta 1777

<210> 364

<211> 269

<212> PRT

<213> Homo sapiens

<400> 364

Met Ala Ala Ser Ala Gly Ala Gly Ala Val Ile Ala Ala Pro Asp

1 5 10 15

Ser Arg Arg Trp Leu Trp Ser Val Leu Ala Ala Ala Leu Gly Leu

20 25 30

Leu Thr Ala Gly Val Ser Ala Leu Glu Val Tyr Thr Pro Lys Glu

35 40 45

Ile Phe Val Ala Asn Gly Thr Gln Gly Lys Leu Thr Cys Lys Phe

50 55 60

Lys Ser Thr Ser Thr Thr Gly Gly Leu Thr Ser Val Ser Trp Ser

65 70 75

Phe Gln Pro Glu Gly Ala Asp Thr Thr Val Ser Phe Phe His Tyr

80 85 90

Ser Gln Gly Gln Val Tyr Leu Gly Asn Tyr Pro Pro Phe Lys Asp

95 100 105

Arg Ile Ser Trp Ala Gly Asp Leu Asp Lys Lys Asp Ala Ser Ile

110 115 120

Asn Ile Glu Asn Met Gln Phe Ile His Asn Gly Thr Tyr Ile Cys

125 130 135

Asp Val Lys Asn Pro Pro Asp Ile Val Val Gln Pro Gly His Ile

140 145 150

Arg Leu Tyr Val Val Glu Lys Glu Asn Leu Pro Val Phe Pro Val

155 160 165

Trp Val Val Val Gly Ile Val Thr Ala Val Val Leu Gly Leu Thr

170 175 180

Leu Leu Ile Ser Met Ile Leu Ala Val Leu Tyr Arg Arg Lys Asn

185	190	195
Ser Lys Arg Asp Tyr Thr Gly Cys Ser Thr Ser Glu Ser Leu Ser		
200	205	210
Pro Val Lys Gln Ala Pro Arg Lys Ser Pro Ser Asp Thr Glu Gly		
215	220	225
Leu Val Lys Ser Leu Pro Ser Gly Ser His Gln Gly Pro Val Ile		
230	235	240
Tyr Ala Gln Leu Asp His Ser Gly Gly His His Ser Asp Lys Ile		
245	250	255
Asn Lys Ser Glu Ser Val Val Tyr Ala Asp Ile Arg Lys Asn		
260	265	

<210> 365

<211> 1321

<212> DNA

<213> Homo sapiens

<400> 365

gccggctgtg cagagacgcc atgtaccggc tcctgtcagc agtgactgcc 50

cgggctgccg cccccggggg cttggcctca agctgcggac gacgcggggt 100

ccatcagcgc gccgggctgc cgcctctcgg ccacggctgg gtcggggggc 150

tcgggctggg gctggggctg gcgctcgggg tgaagctggc aggtgggctg 200

aggggcgcgg ccccggcgca gtccccgcg gccccgacc ctgaggcgtc 250

gcctctggcc gagecgccac aggagcagtc cctcgccccg tggctccgc 300

agaccccggc gccgccctgc tccaggtgct tcgccagagc catcgagagc 350

agccgcgacc tgtgcacag gatcaaggat gaggtgggcg caccgggcat 400

agtgttgga gttctgtag atggaaaaga agtctgtca gaaggttag 450

gttatgctga tgttgagaac cgtgtacat gtaaaccaga gacagttatg 500

cgaattgcta gcatcagcaa aagtctcacc atggttgctc ttgccaaatt 550

gtgggaagca gggaaactgg atcttgatat tccagtacaa cattatgttc 600  
 ccgaattccc agaaaaagaa tatgaagggtg aaaagggttc tgcacaaca 650  
 agattactga ttcccatgtt aagtgggaatt cgtcattatg aaaaggacat 700  
 aaaaaagggtg aaagaagaga aagcttataa agccttgaag atgatgaaag 750  
 agaattgttc atttgagcaa gaaaaagaag gcaaaagtaa tgaaaagaat 800  
 gattttacta aatttaaaac agagcaggag aatgaagcca aatgccgga 850  
 ttcaaacct ggcaagaaaa agaattgatt tgaacaaggc gaattatatt 900  
 tgagagaaaa gtttgaaaat tcaattgaat ccctaagatt atttaaaaat 950  
 gatcctttgt tcttcaaacc tggtagtcag ttttgtatt caacttttgg 1000  
 ctatacccta ctggcagcca tagtagagag agcttcagga tgtaaatatt 1050  
 tggactatat gcagaaaata ttccatgact tggatatgct gacgactgtg 1100  
 caggaagaaa acgagccagt gatttacaat agagcaaggt aatgaatac 1150  
 cttctgctgt gtctagctat atcgcatctt aacactattt tattaattaa 1200  
 aagtcaaatt ttcttgttt ccattccaaa atcaacctgc cacattttgg 1250  
 gagcttttct acatgtctgt ttctcatct gtaaagtga ggaagtaaaa 1300  
 catgtttata aagtaaaaaa a 1321

<210> 366

<211> 373

<212> PRT

<213> Homo sapiens

<400> 366

Met Tyr Arg Leu Leu Ser Ala Val Thr Ala Arg Ala Ala Ala Pro

1 5 10 15

Gly Gly Leu Ala Ser Ser Cys Gly Arg Arg Gly Val His Gln Arg

20 25 30

Ala Gly Leu Pro Pro Leu Gly His Gly Trp Val Gly Gly Leu Gly

35	40	45
Leu Gly Leu Gly Leu Ala Leu Gly Val Lys Leu Ala Gly Gly Leu		
50	55	60
Arg Gly Ala Ala Pro Ala Gln Ser Pro Ala Ala Pro Asp Pro Glu		
65	70	75
Ala Ser Pro Leu Ala Glu Pro Pro Gln Glu Gln Ser Leu Ala Pro		
80	85	90
Trp Ser Pro Gln Thr Pro Ala Pro Pro Cys Ser Arg Cys Phe Ala		
95	100	105
Arg Ala Ile Glu Ser Ser Arg Asp Leu Leu His Arg Ile Lys Asp		
110	115	120
Glu Val Gly Ala Pro Gly Ile Val Val Gly Val Ser Val Asp Gly		
125	130	135
Lys Glu Val Trp Ser Glu Gly Leu Gly Tyr Ala Asp Val Glu Asn		
140	145	150
Arg Val Pro Cys Lys Pro Glu Thr Val Met Arg Ile Ala Ser Ile		
155	160	165
Ser Lys Ser Leu Thr Met Val Ala Leu Ala Lys Leu Trp Glu Ala		
170	175	180
Gly Lys Leu Asp Leu Asp Ile Pro Val Gln His Tyr Val Pro Glu		
185	190	195
Phe Pro Glu Lys Glu Tyr Glu Gly Glu Lys Val Ser Val Thr Thr		
200	205	210
Arg Leu Leu Ile Ser His Leu Ser Gly Ile Arg His Tyr Glu Lys		
215	220	225
Asp Ile Lys Lys Val Lys Glu Glu Lys Ala Tyr Lys Ala Leu Lys		
230	235	240
Met Met Lys Glu Asn Val Ala Phe Glu Gln Glu Lys Glu Gly Lys		
245	250	255
Ser Asn Glu Lys Asn Asp Phe Thr Lys Phe Lys Thr Glu Gln Glu		



260	265	270
Asn Glu Ala Lys Cys Arg Asn Ser Lys Pro Gly Lys Lys Lys Asn		
275	280	285
Asp Phe Glu Gln Gly Glu Leu Tyr Leu Arg Glu Lys Phe Glu Asn		
290	295	300
Ser Ile Glu Ser Leu Arg Leu Phe Lys Asn Asp Pro Leu Phe Phe		
305	310	315
Lys Pro Gly Ser Gln Phe Leu Tyr Ser Thr Phe Gly Tyr Thr Leu		
320	325	330
Leu Ala Ala Ile Val Glu Arg Ala Ser Gly Cys Lys Tyr Leu Asp		
335	340	345
Tyr Met Gln Lys Ile Phe His Asp Leu Asp Met Leu Thr Thr Val		
350	355	360
Gln Glu Glu Asn Glu Pro Val Ile Tyr Asn Arg Ala Arg		
365	370	

<210> 367

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 367

tggaagaa gtctggcag aaggttagg 30

<210> 368

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 368

cattggctt cattcctg ctctg 25

<210> 369  
<211> 28  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 369  
aaaacctcag aacaactcat ttgcacc 28

<210> 370  
<211> 41  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 370  
gtctcacat ggttgcctt gccaaattgt gggaagcagg g 41

<210> 371  
<211> 1150  
<212> DNA  
<213> Homo sapiens

<400> 371  
gtgacactat agaagagcta tgacgtcgca tgcacgcgta cgtaagctcg 50  
  
gaattcggct cgaggctggt gggaagaagc cgagatggcg gcagccagcg 100  
  
ctggggcaac ccggctgctc ctgctcttgc tgatggcggg agcagcgccc 150  
  
agtcgagccc ggggcagcgg ctgccgggcc gggactgggt cgcgaggggc 200  
  
tggggcgga ggtcgagagg gcgaggcctg tggcacggtg gggctgctgc 250  
  
tggagcactc attgagatc gatgacagt ccaactccg gaagcggggc 300  
  
tcactgctct ggaaccagca ggatgtacc ttgtccctgt cacagcggca 350  
  
gtcagcgag gaggagcggg gccgactccg ggatgtggca gccctgaatg 400  
  
gcctgtaccg ggtccggatc ccaaggcgac ccggggccct ggatggcctg 450

gaagctgggtg gctatgtctc ctctttgtc cctgcgtgct ccctgggtgga 500  
 gtcgcacctg tcggaccagc tgaccctgca cgtggatgtg gccggcaacg 550  
 tgggtgggctg gtcgggtggg acgcaccccg ggggctgccg gggccatgag 600  
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 gcccaccaca gccccaggcc ctgagacggc ggccttcatt gagcgcctgg 700  
 agatggaaca ggcccagaag gccaagaacc cccaggagca gaagtccttc 750  
 ttcgccaat actggatgta catcattccc gtcgtcctgt tcctcatgat 800  
 gtcaggagcg ccagacaccg ggggccaggg tgggggtggg ggtgggggtg 850  
 gtggtggggg tagtggcctt tgctgtgtgc caccctccct gtaagtctat 900  
 ttaaaaacat cgacgataca ttgaaatgtg tgaacgtttt gaaaagctac 950  
 agcttcacgc agccaaaagc aactgttgtt ttggcaagac ggtcctgatg 1000  
 tacaagcttg attgaaatc actgctcact tgatacgtta ttcagaaacc 1050  
 caaggaatgg ctgtcccat cctcatgtgg ctgtgtggag ctcagctgtg 1100  
 ttgtgtggca gtttattaaa ctgtcccca gatcgacacg caaaaaaaaa 1150

<210> 372

<211> 269

<212> PRT

<213> Homo sapiens

<400> 372

Met Ala Ala Ala Ser Ala Gly Ala Thr Arg Leu Leu Leu Leu Leu

1 5 10 15

Leu Met Ala Val Ala Ala Pro Ser Arg Ala Arg Gly Ser Gly Cys

20 25 30

Arg Ala Gly Thr Gly Ala Arg Gly Ala Gly Ala Glu Gly Arg Glu

35 40 45

Gly Glu Ala Cys Gly Thr Val Gly Leu Leu Leu Glu His Ser Phe

50 55 60

Glu Ile Asp Asp Ser Ala Asn Phe Arg Lys Arg Gly Ser Leu Leu  
65 70 75

Trp Asn Gln Gln Asp Gly Thr Leu Ser Leu Ser Gln Arg Gln Leu  
80 85 90

Ser Glu Glu Glu Arg Gly Arg Leu Arg Asp Val Ala Ala Leu Asn  
95 100 105

Gly Leu Tyr Arg Val Arg Ile Pro Arg Arg Pro Gly Ala Leu Asp  
110 115 120

Gly Leu Glu Ala Gly Gly Tyr Val Ser Ser Phe Val Pro Ala Cys  
125 130 135

Ser Leu Val Glu Ser His Leu Ser Asp Gln Leu Thr Leu His Val  
140 145 150

Asp Val Ala Gly Asn Val Val Gly Val Ser Val Val Thr His Pro  
155 160 165

Gly Gly Cys Arg Gly His Glu Val Glu Asp Val Asp Leu Glu Leu  
170 175 180

Phe Asn Thr Ser Val Gln Leu Gln Pro Pro Thr Thr Ala Pro Gly  
185 190 195

Pro Glu Thr Ala Ala Phe Ile Glu Arg Leu Glu Met Glu Gln Ala  
200 205 210

Gln Lys Ala Lys Asn Pro Gln Glu Gln Lys Ser Phe Phe Ala Lys  
215 220 225

Tyr Trp Met Tyr Ile Ile Pro Val Val Leu Phe Leu Met Met Ser  
230 235 240

Gly Ala Pro Asp Thr Gly Gly Gln Gly Gly Gly Gly Gly Gly  
245 250 255

Gly Gly Gly Gly Ser Gly Leu Cys Cys Val Pro Pro Ser Leu  
260 265

<210> 373

<211> 1706

<212> DNA

<213> Homo sapiens

<400> 373

ggagcgctgc tggaacccga gccggagccg gagccacagc ggggaggggtg 50  
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cagcaggtcg tccggggggc caccatgctg gtgactgcct accttgcttt 150  
tgtaggcctc ctggcctcct gcctggggct ggaactgtca agatgccggg 200  
ctaaaccccc tggaagggcc tgcagcaatc cctccttctc tcggtttcaa 250  
ctggacttct atcagggtcta ctctctggcc ctggcagctg attggcttca 300  
ggccccctac ctctataaac tctaccagca ttactacttc ctggaaggtc 350  
aaattgceat cctctatgtc tgtggccttg cctctacagt cctctttggc 400  
ctagtggcct cctcccttgt ggattggctg ggtcgcaaga attcttgtgt 450  
cctcttctcc ctgacttact cactatgctg cttaacaaa ctctctcaag 500  
actactttgt gctgctagtg gggcgagcac ttggtgggct gtccacagcc 550  
ctgctcttct cagccttcga ggcttggtat atccatgagc acgtggaacg 600  
gcatgacttc cctgctgagt ggatcccagc tacctttgct cgagctgcct 650  
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atgaccggca gcgtgccttc tcaaggacct gtgctggagg cctgcgctgc 850  
ctctgtcgg accgccgct gctgctgctg ggcaccatac aagctctatt 900  
tgagagtgtc atcttcatct ttgttctcct ctggacacct gtgctggacc 950  
cacacggggc ccctctgggc attatcttct ccagttcat ggcagccagc 1000  
ctgcttggct ctccctgta ccgtatgcc acctccaaga ggtaccacct 1050

tcagcccatg cacctgctgt cccttgctgt gctcatgctc gtcttctctc 1100  
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 ctcttgtcc tccatgacag tgatcgaata acaggcactc ggaatatgtt 1350  
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 gggacagact ctgaattcc agctatccgg gattgtacag atctctctgt 1550  
 gactgacttt gtgactgtcc tgtggtttct cctgccattg ctttgtgtt 1600  
 gggaggacat gatgggggtg atggactgga aagaagggtc caaaagtcc 1650  
 ctctgtgtta ctccattta gaaaataaac acttttaaat gatcaaaaaa 1700  
 aaaaaa 1706

<210> 374

<211> 450

<212> PRT

<213> Homo sapiens

<400> 374

Met Leu Val Thr Ala Tyr Leu Ala Phe Val Gly Leu Leu Ala Ser

1 5 10 15

Cys Leu Gly Leu Glu Leu Ser Arg Cys Arg Ala Lys Pro Pro Gly

20 25 30

Arg Ala Cys Ser Asn Pro Ser Phe Leu Arg Phe Gln Leu Asp Phe

35 40 45

Tyr Gln Val Tyr Phe Leu Ala Leu Ala Ala Asp Trp Leu Gln Ala

50 55 60

Pro Tyr Leu Tyr Lys Leu Tyr Gln His Tyr Tyr Phe Leu Glu Gly  
65 70 75

Gln Ile Ala Ile Leu Tyr Val Cys Gly Leu Ala Ser Thr Val Leu  
80 85 90

Phe Gly Leu Val Ala Ser Ser Leu Val Asp Trp Leu Gly Arg Lys  
95 100 105

Asn Ser Cys Val Leu Phe Ser Leu Thr Tyr Ser Leu Cys Cys Leu  
110 115 120

Thr Lys Leu Ser Gln Asp Tyr Phe Val Leu Leu Val Gly Arg Ala  
125 130 135

Leu Gly Gly Leu Ser Thr Ala Leu Leu Phe Ser Ala Phe Glu Ala  
140 145 150

Trp Tyr Ile His Glu His Val Glu Arg His Asp Phe Pro Ala Glu  
155 160 165

Trp Ile Pro Ala Thr Phe Ala Arg Ala Ala Phe Trp Asn His Val  
170 175 180

Leu Ala Val Val Ala Gly Val Ala Ala Glu Ala Val Ala Ser Trp  
185 190 195

Ile Gly Leu Gly Pro Val Ala Pro Phe Val Ala Ala Ile Pro Leu  
200 205 210

Leu Ala Leu Ala Gly Ala Leu Ala Leu Arg Asn Trp Gly Glu Asn  
215 220 225

Tyr Asp Arg Gln Arg Ala Phe Ser Arg Thr Cys Ala Gly Gly Leu  
230 235 240

Arg Cys Leu Leu Ser Asp Arg Arg Val Leu Leu Leu Gly Thr Ile  
245 250 255

Gln Ala Leu Phe Glu Ser Val Ile Phe Ile Phe Val Phe Leu Trp  
260 265 270

Thr Pro Val Leu Asp Pro His Gly Ala Pro Leu Gly Ile Ile Phe  
275 280 285

Ser Ser Phe Met Ala Ala Ser Leu Leu Gly Ser Ser Leu Tyr Arg  
290 295 300

Ile Ala Thr Ser Lys Arg Tyr His Leu Gln Pro Met His Leu Leu  
305 310 315

Ser Leu Ala Val Leu Ile Val Val Phe Ser Leu Phe Met Leu Thr  
320 325 330

Phe Ser Thr Ser Pro Gly Gln Glu Ser Pro Val Glu Ser Phe Ile  
335 340 345

Ala Phe Leu Leu Ile Glu Leu Ala Cys Gly Leu Tyr Phe Pro Ser  
350 355 360

Met Ser Phe Leu Arg Arg Lys Val Ile Pro Glu Thr Glu Gln Ala  
365 370 375

Gly Val Leu Asn Trp Phe Arg Val Pro Leu His Ser Leu Ala Cys  
380 385 390

Leu Gly Leu Leu Val Leu His Asp Ser Asp Arg Lys Thr Gly Thr  
395 400 405

Arg Asn Met Phe Ser Ile Cys Ser Ala Val Met Val Met Ala Leu  
410 415 420

Leu Ala Val Val Gly Leu Phe Thr Val Val Arg His Asp Ala Glu  
425 430 435

Leu Arg Val Pro Ser Pro Thr Glu Glu Pro Tyr Ala Pro Glu Leu  
440 445 450

<210> 375

<211> 1098

<212> DNA

<213> Homo sapiens

<400> 375

gcgacgcgcg gcggggcggc gagaggaaac gcggcgccgg gccgggcccg 50

gccctggaga tgggtccccg gcgcggggc tgggtgtgtc tcgtgtctg 100

gctccccgcg tgcgtcgcgg cccacggctt ccgtatccat gattatttgt 150



actttcaagt gctgagtcct ggggacattc gatacatctt cacagccaca 200  
 cctgccaagg actttggtgg tatctttcac acaaggtatg agcagattca 250  
 ccttgtcccc gctgaacctc cagaggcctg cggggaactc agcaacggtt 300  
 tcttcatcca ggaccagatt gctctggtgg agaggggggg ctgctccttc 350  
 ctctccaaga ctgggtggt ccaggagcac ggcgggcggg cggatgatcat 400  
 ctctgacaac gcagttgaca atgacagctt ctactggag atgatccagg 450  
 acagtacca ggcacagct gacatccccg cctcttctt gctcggccga 500  
 gacggctaca tgatccgccg ctctctggaa cagcatgggc tgccatgggc 550  
 catcatttc atccagtca atgtaccag catccccacc ttgagctgc 600  
 tgcaaccgcc ctggaccttc tggtagaaga gttgtcca cattccagcc 650  
 ataagtact ctgagctggg aaggggaaac ccaggaattt tgctacttg 700  
 aatttgaga tagcatctgg ggacaagtgg agccaggtag aggaaaagg 750  
 ttgggcgtt gctaggctga aagggaagcc acaccactgg ccttccttc 800  
 cccagggcc ccaagggtgt ctcatgtac aagaagagc aagagacagg 850  
 cccagggtt tctggctaga acccgaaaca aaaggagctg aaggcaggtg 900  
 gcctgagagc catctgtac ctgtcacact cacctggctc cagctcccc 950  
 taccagggt ctctgcacag tgaccttcac agcagttgtt ggagtggttt 1000  
 aaagagctgg tgttgggga ctcaataaac cctactgac ttttagcaa 1050  
 taaagcttct catcagggtt gcaaaaaaaaa aaaaaaaaa aaaaaaaaa 1098

<210> 376

<211> 188

<212> PRT

<213> Homo sapiens

<400> 376

Met Val Pro Gly Ala Ala Gly Trp Cys Cys Leu Val Leu Trp Leu

1            5            10            15

Pro Ala Cys Val Ala Ala His Gly Phe Arg Ile His Asp Tyr Leu  
20            25            30

Tyr Phe Gln Val Leu Ser Pro Gly Asp Ile Arg Tyr Ile Phe Thr  
35            40            45

Ala Thr Pro Ala Lys Asp Phe Gly Gly Ile Phe His Thr Arg Tyr  
50            55            60

Glu Gln Ile His Leu Val Pro Ala Glu Pro Pro Glu Ala Cys Gly  
65            70            75

Glu Leu Ser Asn Gly Phe Phe Ile Gln Asp Gln Ile Ala Leu Val  
80            85            90

Glu Arg Gly Gly Cys Ser Phe Leu Ser Lys Thr Arg Val Val Gln  
95            100            105

Glu His Gly Gly Arg Ala Val Ile Ile Ser Asp Asn Ala Val Asp  
110            115            120

Asn Asp Ser Phe Tyr Val Glu Met Ile Gln Asp Ser Thr Gln Arg  
125            130            135

Thr Ala Asp Ile Pro Ala Leu Phe Leu Leu Gly Arg Asp Gly Tyr  
140            145            150

Met Ile Arg Arg Ser Leu Glu Gln His Gly Leu Pro Trp Ala Ile  
155            160            165

Ile Ser Ile Pro Val Asn Val Thr Ser Ile Pro Thr Phe Glu Leu  
170            175            180

Leu Gln Pro Pro Trp Thr Phe Trp  
185

<210> 377

<211> 496

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 396

<223> unknown base

<400> 377

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ggctggtggt gatggctggt gtgattccaa tccagggcgg gacctgaac 100

ctgaacaaga tggtaagca agtgactggg aaaatgccca tccttccta 150

ctggccctac ggctgtcact gcggactagg tggcagaggc caacccaaag 200

atgccacgga ctggtgtgc cagacccatg actgtgtgta tgaccacctg 250

aagaccagg ggtgcggcat ctacaaggac aacaacaaaa gcagcataca 300

ttgtatggat ttatctcaac gctattgttt aatggctgtg ttaatgtga 350

tctatctgga aaatgaggac tccgaataaa aagctattac tawttnaaaa 400

aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 450

aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 496

<210> 378

<211> 116

<212> PRT

<213> Homo sapiens

<400> 378

Met Glu Leu Ala Leu Leu Cys Gly Leu Val Val Met Ala Gly Val

1 5 10 15

Ile Pro Ile Gln Gly Gly Ile Leu Asn Leu Asn Lys Met Val Lys

20 25 30

Gln Val Thr Gly Lys Met Pro Ile Leu Ser Tyr Trp Pro Tyr Gly

35 40 45

Cys His Cys Gly Leu Gly Gly Arg Gly Gln Pro Lys Asp Ala Thr

50 55 60

Asp Trp Cys Cys Gln Thr His Asp Cys Cys Tyr Asp His Leu Lys

65 70 75

Thr Gln Gly Cys Gly Ile Tyr Lys Asp Asn Asn Lys Ser Ser Ile  
80 85 90

His Cys Met Asp Leu Ser Gln Arg Tyr Cys Leu Met Ala Val Phe  
95 100 105

Asn Val Ile Tyr Leu Glu Asn Glu Asp Ser Glu  
110 115

<210> 379

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 379

ctgcctccac tgctctgtgc tggg 24

<210> 380

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 380

cagagcagtg gatgtccccc tggg 24

<210> 381

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 381

ctgaacaaga tggtaagca agtgactggg aaaatgccca tcctc 45

<210> 382

<211> 764

<212> DNA

<213> Homo sapiens

<400> 382

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ctcctggggg gcccacctg ggcagggaag atgtatggcc ctggaggagg 200  
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ccagttaatc tcacatactc agcaaactca cccgtgggtc gctaggggtg 650  
ggatatgggc catccgagct gaggccatct gtgtggtggt ggctgatggt 700  
actggagtaa ctgagtcggg acgctgaatc tgaatccacc aataaataaa 750  
gcttctgcag aaaa 764

<210> 383

<211> 178

<212> PRT

<213> Homo sapiens

<400> 383

Met His Arg Pro Glu Ala Met Leu Leu Leu Leu Thr Leu Ala Leu  
1 5 10 15

Leu Gly Gly Pro Thr Trp Ala Gly Lys Met Tyr Gly Pro Gly Gly

20	25	30
Gly Lys Tyr Phe Ser Thr Thr Glu Asp Tyr Asp His Glu Ile Thr		
35	40	45
Gly Leu Arg Val Ser Val Gly Leu Leu Leu Val Lys Ser Val Gln		
50	55	60
Val Lys Leu Gly Asp Ser Trp Asp Val Lys Leu Gly Ala Leu Gly		
65	70	75
Gly Asn Thr Gln Glu Val Thr Leu Gln Pro Gly Glu Tyr Ile Thr		
80	85	90
Lys Val Phe Val Ala Phe Gln Ala Phe Leu Arg Gly Met Val Met		
95	100	105
Tyr Thr Ser Lys Asp Arg Tyr Phe Tyr Phe Gly Lys Leu Asp Gly		
110	115	120
Gln Ile Ser Ser Ala Tyr Pro Ser Gln Glu Gly Gln Val Leu Val		
125	130	135
Gly Ile Tyr Gly Gln Tyr Gln Leu Leu Gly Ile Lys Ser Ile Gly		
140	145	150
Phe Glu Trp Asn Tyr Pro Leu Glu Glu Pro Thr Thr Glu Pro Pro		
155	160	165
Val Asn Leu Thr Tyr Ser Ala Asn Ser Pro Val Gly Arg		
170	175	

<210> 384

<211> 2379

<212> DNA

<213> Homo sapiens

<400> 384

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atacagatgt ggcagctcag gtagccccaa attgcctgga agaatacatc 150

atgtttttcg ataagaagaa attgtaggat ccagtttttt tttaaccgc 200

cccccccca ccccccaaaa aaactgtaaa gatgcaaaaa cgtaatatcc 250  
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tggtgggatt tatttgttct tggagtgttc tgcgtggctg gcaaagaata 350  
atgttccaaa atcgggtccat ctcccaaggg gtccaatttt tcttctggg 400  
tgtcagcgag ccctgactca ctacagtga gctgacaggg gctgtcatgc 450  
aactggcccc taagccaaag caaaagacct aaggacgacc ttgaacaat 500  
acaaaggatg ggtttcaatg taattaggct actgagcgga tcagctgtag 550  
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cgctcaacc tggattccaa caagtcaca tttattggc aagatattt 1400  
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tcataatact ggatcttct ctcataca taatcaaccc attgaaattt 2250  
aaataccaca atcaatgtga agcttgaact ccggtttaat ataataccta 2300  
ttgtataaga cccttactg attccattaa tctgcattt gtttaagat 2350  
aaaacttctt tcataggtaa aaaaaaaaa 2379

<210> 385

<211> 513

<212> PRT



<213> Homo sapiens

<400> 385

Met Gly Phe Asn Val Ile Arg Leu Leu Ser Gly Ser Ala Val Ala  
1 5 10 15

Leu Val Ile Ala Pro Thr Val Leu Leu Thr Met Leu Ser Ser Ala  
20 25 30

Glu Arg Gly Cys Pro Lys Gly Cys Arg Cys Glu Gly Lys Met Val  
35 40 45

Tyr Cys Glu Ser Gln Lys Leu Gln Glu Ile Pro Ser Ser Ile Ser  
50 55 60

Ala Gly Cys Leu Gly Leu Ser Leu Arg Tyr Asn Ser Leu Gln Lys  
65 70 75

Leu Lys Tyr Asn Gln Phe Lys Gly Leu Asn Gln Leu Thr Trp Leu  
80 85 90

Tyr Leu Asp His Asn His Ile Ser Asn Ile Asp Glu Asn Ala Phe  
95 100 105

Asn Gly Ile Arg Arg Leu Lys Glu Leu Ile Leu Ser Ser Asn Arg  
110 115 120

Ile Ser Tyr Phe Leu Asn Asn Thr Phe Arg Pro Val Thr Asn Leu  
125 130 135

Arg Asn Leu Asp Leu Ser Tyr Asn Gln Leu His Ser Leu Gly Ser  
140 145 150

Glu Gln Phe Arg Gly Leu Arg Lys Leu Leu Ser Leu His Leu Arg  
155 160 165

Ser Asn Ser Leu Arg Thr Ile Pro Val Arg Ile Phe Gln Asp Cys  
170 175 180

Arg Asn Leu Glu Leu Leu Asp Leu Gly Tyr Asn Arg Ile Arg Ser  
185 190 195

Leu Ala Arg Asn Val Phe Ala Gly Met Ile Arg Leu Lys Glu Leu  
200 205 210

His Leu Glu His Asn Gln Phe Ser Lys Leu Asn Leu Ala Leu Phe  
215 220 225

Pro Arg Leu Val Ser Leu Gln Asn Leu Tyr Leu Gln Trp Asn Lys  
230 235 240

Ile Ser Val Ile Gly Gln Thr Met Ser Trp Thr Trp Ser Ser Leu  
245 250 255

Gln Arg Leu Asp Leu Ser Gly Asn Glu Ile Glu Ala Phe Ser Gly  
260 265 270

Pro Ser Val Phe Gln Cys Val Pro Asn Leu Gln Arg Leu Asn Leu  
275 280 285

Asp Ser Asn Lys Leu Thr Phe Ile Gly Gln Glu Ile Leu Asp Ser  
290 295 300

Trp Ile Ser Leu Asn Asp Ile Ser Leu Ala Gly Asn Ile Trp Glu  
305 310 315

Cys Ser Arg Asn Ile Cys Ser Leu Val Asn Trp Leu Lys Ser Phe  
320 325 330

Lys Gly Leu Arg Glu Asn Thr Ile Ile Cys Ala Ser Pro Lys Glu  
335 340 345

Leu Gln Gly Val Asn Val Ile Asp Ala Val Lys Asn Tyr Ser Ile  
350 355 360

Cys Gly Lys Ser Thr Thr Glu Arg Phe Asp Leu Ala Arg Ala Leu  
365 370 375

Pro Lys Pro Thr Phe Lys Pro Lys Leu Pro Arg Pro Lys His Glu  
380 385 390

Ser Lys Pro Pro Leu Pro Pro Thr Val Gly Ala Thr Glu Pro Gly  
395 400 405

Pro Glu Thr Asp Ala Asp Ala Glu His Ile Ser Phe His Lys Ile  
410 415 420

Ile Ala Gly Ser Val Ala Leu Phe Leu Ser Val Leu Val Ile Leu  
425 430 435

Leu Val Ile Tyr Val Ser Trp Lys Arg Tyr Pro Ala Ser Met Lys  
440 445 450

Gln Leu Gln Gln Arg Ser Leu Met Arg Arg His Arg Lys Lys Lys  
455 460 465

Arg Gln Ser Leu Lys Gln Met Thr Pro Ser Thr Gln Glu Phe Tyr  
470 475 480

Val Asp Tyr Lys Pro Thr Asn Thr Glu Thr Ser Glu Met Leu Leu  
485 490 495

Asn Gly Thr Gly Pro Cys Thr Tyr Asn Lys Ser Gly Ser Arg Glu  
500 505 510

Cys Glu Val

<210> 386

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 386

ctgggatctg aacagtttcg gggc 24

<210> 387

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 387

ggtccccagg acatggtctg tccc 24

<210> 388

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 388

gctgagttta catttacggt ctaactccct gagaaccatc cctgtgcg 48

<210> 389

<211> 1449

<212> DNA

<213> Homo sapiens

<400> 389

agttctgaga aagaaggaaa taaacacagg caccaaacca ctatcctaag 50

ttgactgtcc tttaaataag tcaagatcca gacttttcag tgcacctca 100

gcgactcaaa cgatagggat cttgtgttg ccgctattcc agttgggtgt 150

ctcggaccta ccatgcgaag aagatgaaat gtgtgtaaat tataatgacc 200

aacaccctaa tggctggtat atctggatcc tcctgctgct ggttttggtg 250

gcagctcttc tctgtggagc tgtggctcct tgcctccagt gctggctgag 300

gagaccccca attgattctc acaggcgcac catggcagtt tttgctgttg 350

gagacttga ctctatttat gggacagaag cagctgtgag tccaactgtt 400

ggaattcacc ttcaaactca aaccctgac ctatatactg ttctgtctcc 450

atgttttggc ccttaggct cccacacctc atatgaagaa attgtaaaaa 500

caacctgatt ttaggtgtgg attatcaatt taaagtatta acgacatctg 550

taattccaaa acatcaaatt taggaatagt tatttcagtt gttggaaatg 600

tccagagatc tattcatata gtctgaggaa ggacaattcg acaaaagaat 650

ggatgttgga aaaaattttg gtcattggaga tgtttaata gtaaagtagc 700

aggcttttga tgtgtcactg ctgtatcata cttttatgct acacaaccaa 750

attaatgctt ctccactagt atccaaacag gcaacaatta ggtgctggaa 800

gtagtttcca tcacatttag gactccactg cagtatacag cacaccattt 850

tctgctttaa actctttcct agcatggggt ccataaaaat tattataatt 900  
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 tggagttgaa gggtaaagga taaatgaaga ggaaaaggaa aagattacaa 1050  
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 tgtagataga aggtgaagga gattgctgaa gatatagagc acatataatg 1150  
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 ctccatagtc catagtgttt ctctggagcc tcagggcttg gcatttattg 1250  
 cagcatcatg ctaagaacct tcggcatagg tatctgttcc catgaggact 1300  
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<210> 390

<211> 146

<212> PRT

<213> Homo sapiens

<400> 390

Met Ser Arg Ser Arg Leu Phe Ser Val Thr Ser Ala Ile Ser Thr

1 5 10 15

Ile Gly Ile Leu Cys Leu Pro Leu Phe Gln Leu Val Leu Ser Asp

20 25 30

Leu Pro Cys Glu Glu Asp Glu Met Cys Val Asn Tyr Asn Asp Gln

35 40 45

His Pro Asn Gly Trp Tyr Ile Trp Ile Leu Leu Leu Val Leu

50 55 60

Val Ala Ala Leu Leu Cys Gly Ala Val Val Leu Cys Leu Gln Cys

65 70 75

Trp Leu Arg Arg Pro Arg Ile Asp Ser His Arg Arg Thr Met Ala  
80 85 90

Val Phe Ala Val Gly Asp Leu Asp Ser Ile Tyr Gly Thr Glu Ala  
95 100 105

Ala Val Ser Pro Thr Val Gly Ile His Leu Gln Thr Gln Thr Pro  
110 115 120

Asp Leu Tyr Pro Val Pro Ala Pro Cys Phe Gly Pro Leu Gly Ser  
125 130 135

Pro Pro Pro Tyr Glu Glu Ile Val Lys Thr Thr  
140 145

<210> 391

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 391

cttttcagtgcacacacgcacgatc 26

<210> 392

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 392

ccaaaacatgcagcaggaacagg 23

<210> 393

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 393

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<210> 394

<211> 2340

<212> DNA

<213> Homo sapiens

<400> 394

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gacgcagctg acgcccgtt attagctctc gctgcgtcgc cccggctcag 150

aagctccgtg gcggcggcga ccgtgacgag aagcccacgg ccagctcagt 200

tcttcttac ttgggagag agagaaagtc agatgccct ttaaaactcc 250

ctttcaaaa ctcatctct gggtgactga gttaatagag tggatacaac 300

cttgctgaag atgaagaata tacaatattg aggatatttt ttctttttt 350

ttttcaagtc ttgattgtg gcttacctca agttaccatt tttcagtcaa 400

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attttgcaac gattggtgaa gctggagaac aaagttgact atattgttgt 750

gaatggctca gcagccaaca ccaccaatgg tactagtggg aatttggtgc 800

cagtaaccac aaataaaaga acgaatgtct cgggcagtat cagatagcag 850

ttgaaaatca ctttgtgtg ctccatccac tgtggattat atcctatggc 900

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tatttattct ctatagtaac tgcttaagt cagctagctt ctagatttag 2150

actatataga atttagatat tgtattgttc gtcattataa tatgctacca 2200

catgtagcaa taattacaat attttattaa aataaatatg tgaaatattg 2250

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acctttatgt gaagaaatta attatatgcc attgccaggt 2340

<210> 395

<211> 140

<212> PRT

<213> Homo sapiens

<400> 395

Met Phe Phe Thr Ile Ser Arg Lys Asn Met Ser Gln Lys Leu Ser

1 5 10 15

Leu Leu Leu Leu Val Phe Gly Leu Ile Trp Gly Leu Met Leu Leu

20 25 30

His Tyr Thr Phe Gln Gln Pro Arg His Gln Ser Ser Val Lys Leu

35 40 45

Arg Glu Gln Ile Leu Asp Leu Ser Lys Arg Tyr Val Lys Ala Leu

50 55 60

Ala Glu Glu Asn Lys Asn Thr Val Asp Val Glu Asn Gly Ala Ser

65 70 75

Met Ala Gly Tyr Ala Asp Leu Lys Arg Thr Ile Ala Val Leu Leu

80 85 90

Asp Asp Ile Leu Gln Arg Leu Val Lys Leu Glu Asn Lys Val Asp

95 100 105

Tyr Ile Val Val Asn Gly Ser Ala Ala Asn Thr Thr Asn Gly Thr

110 115 120

Ser Gly Asn Leu Val Pro Val Thr Thr Asn Lys Arg Thr Asn Val

125 130 135

Ser Gly Ser Ile Arg  
140

<210> 396

<211> 2639

<212> DNA

<213> Homo sapiens

<400> 396

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acctggcc tttcgacag cttcagcctg actcgggtgg attgtagcgg 200  
cctgggcccc cacatcatgc cggtgccat ccctctggac acagcccact 250  
tggacctgtc ctcaaccgg ctggagatgg tgaatgagtc ggtgttgcg 300  
gggcccggct acacgacgtt ggctggcctg gatctagcc acaacctgct 350  
caccagcatc tcaccactg ccttctccc ccttcgtac ctggagtgc 400  
ttgacctag ccacaatggc ctgacagccc tgccagccga gagcttacc 450  
agctacccc tgagcgacgt gaaccttagc cacaaccagc tccgggaggt 500  
ctcagtgtct gccttcagc cgcacagtca gggccgggca ctacacgtgg 550  
accttccca caacctcatt caccgcctg tgccccacc cagagggcc 600  
ggcctgcctg cgcccacat tcagagcctg aacctggcct ggaaccggct 650  
ccatgccgtg cccaacctcc gagacttgc cctgcgtac ctgagcctgg 700  
atgggaacct tctagctgtc attgtccgg gtgccttcgc ggggctggga 750  
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gcccagtggc ttccgtgagc taccgggcct gcaggtcctg gacctgtcg 850  
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<210> 397

<211> 353

<212> PRT

<213> Homo sapiens

<400> 397

Met Pro Trp Pro Leu Leu Leu Leu Ala Val Ser Gly Ala Gln  
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Thr Thr Arg Pro Cys Phe Pro Gly Cys Gln Cys Glu Val Glu Thr  
 20 25 30

Phe Gly Leu Phe Asp Ser Phe Ser Leu Thr Arg Val Asp Cys Ser  
 35 40 45

Gly Leu Gly Pro His Ile Met Pro Val Pro Ile Pro Leu Asp Thr  
 50 55 60

Ala His Leu Asp Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu  
 65 70 75

Ser Val Leu Ala Gly Pro Gly Tyr Thr Thr Leu Ala Gly Leu Asp  
80 85 90

Leu Ser His Asn Leu Leu Thr Ser Ile Ser Pro Thr Ala Phe Ser  
95 100 105

Arg Leu Arg Tyr Leu Glu Ser Leu Asp Leu Ser His Asn Gly Leu  
110 115 120

Thr Ala Leu Pro Ala Glu Ser Phe Thr Ser Ser Pro Leu Ser Asp  
125 130 135

Val Asn Leu Ser His Asn Gln Leu Arg Glu Val Ser Val Ser Ala  
140 145 150

Phe Thr Thr His Ser Gln Gly Arg Ala Leu His Val Asp Leu Ser  
155 160 165

His Asn Leu Ile His Arg Leu Val Pro His Pro Thr Arg Ala Gly  
170 175 180

Leu Pro Ala Pro Thr Ile Gln Ser Leu Asn Leu Ala Trp Asn Arg  
185 190 195

Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg Tyr Leu  
200 205 210

Ser Leu Asp Gly Asn Pro Leu Ala Val Ile Gly Pro Gly Ala Phe  
215 220 225

Ala Gly Leu Gly Gly Leu Thr His Leu Ser Leu Ala Ser Leu Gln  
230 235 240

Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly  
245 250 255

Leu Gln Val Leu Asp Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala  
260 265 270

Gly Ala Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp  
275 280 285

Leu Ser Gly Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu Leu  
290 295 300

His Leu Pro Ala Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg  
305 310 315

Cys Arg Arg Leu Val Arg Glu Gly Thr Tyr Pro Arg Arg Pro Gly  
320 325 330

Ser Ser Pro Lys Val Pro Leu His Cys Val Asp Thr Arg Glu Ser  
335 340 345

Ala Ala Arg Gly Pro Thr Ile Leu  
350

<210> 398

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 398

ccctgccagc cgagagcttc acc 23

<210> 399

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 399

ggttggtgcc cgaaaggtcc agc 23

<210> 400

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 400

caacccaag cttactggg caggagctga ggtgtttca ggcc 44

<210> 401  
<211> 1571  
<212> DNA  
<213> Homo sapiens

<400> 401  
gatggcgag ccacagcttc tgtgagattc gatttctccc cagttcccct 50  
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atgcattct ctatctattc actgcaagt cctgctgttc caggccttac 200  
ctgctgggca ctaacggcgg agccaggatg gggacagaat aaaggagcca 250  
cgacctgtgc caccaactcg cactcagact ctgaactcag acctgaaac 300  
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 ccaaaaaaaaa aaaaaaaaaa a 1571

<210> 402

<211> 261

<212> PRT

<213> Homo sapiens

<400> 402

Met Arg Gln Phe Pro Lys Thr Ser Phe Asp Ile Ser Pro Glu Met  
 1 5 10 15

Ser Phe Ser Ile Tyr Ser Leu Gln Val Pro Ala Val Pro Gly Leu  
 20 25 30

Thr Cys Trp Ala Leu Thr Ala Glu Pro Gly Trp Gly Gln Asn Lys  
 35 40 45

Gly Ala Thr Thr Cys Ala Thr Asn Ser His Ser Asp Ser Glu Leu  
 50 55 60

Arg Pro Glu Ile Phe Ser Ser Arg Glu Ala Trp Gln Phe Phe Leu  
 65 70 75



Leu Leu Trp Ser Pro Asp Phe Arg Pro Lys Met Lys Ala Ser Ser  
80 85 90

Leu Ala Phe Ser Leu Leu Ser Ala Ala Phe Tyr Leu Leu Trp Thr  
95 100 105

Pro Ser Thr Gly Leu Lys Thr Leu Asn Leu Gly Ser Cys Val Ile  
110 115 120

Ala Thr Asn Leu Gln Glu Ile Arg Asn Gly Phe Ser Glu Ile Arg  
125 130 135

Gly Ser Val Gln Ala Lys Asp Gly Asn Ile Asp Ile Arg Ile Leu  
140 145 150

Arg Arg Thr Glu Ser Leu Gln Asp Thr Lys Pro Ala Asn Arg Cys  
155 160 165

Cys Leu Leu Arg His Leu Leu Arg Leu Tyr Leu Asp Arg Val Phe  
170 175 180

Lys Asn Tyr Gln Thr Pro Asp His Tyr Thr Leu Arg Lys Ile Ser  
185 190 195

Ser Leu Ala Asn Ser Phe Leu Thr Ile Lys Lys Asp Leu Arg Leu  
200 205 210

Ser His Ala His Met Thr Cys His Cys Gly Glu Glu Ala Met Lys  
215 220 225

Lys Tyr Ser Gln Ile Leu Ser His Phe Glu Lys Leu Glu Pro Gln  
230 235 240

Ala Ala Val Val Lys Ala Leu Gly Glu Leu Asp Ile Leu Leu Gln  
245 250 255

Trp Met Glu Glu Thr Glu  
260

<210> 403

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 403

ctcctgtggt ctccagattt caggccta 28

<210> 404

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 404

agtctctctt aagattctga tgtcaa 26

<210> 405

<211> 998

<212> DNA

<213> Homo sapiens

<400> 405

ccgttatcgt ctgcgctac tgctgaatgt ccgtcccga ggaggaggag 50

aggcttttgc cgctgaccca gagatggccc cgagcgagca aattcctact 100

gtccggctgc gcggctaccg tggccgagct agcaaccttt cccctggatc 150

tcacaaaaac tcgactccaa atgcaaggag aagcagctct tgctcggttg 200

ggagacggtg caagagaatc tgccccctat aggggaatgg tgcgcacagc 250

cctagggatc attgaagagg aaggctttct aaagctttgg caaggagtga 300

caccgccat ttacagacac gtagtgatt ctggaggctg aatggtcaca 350

tatgaacatc tccgagaggt tgtgtttggc aaaagtgaag atgagcatta 400

tcccctttgg aatcagtc tggagggat gatggctggt gttattggcc 450

agtttttagc caatccaact gacctagtga aggttcagat gcaaatggaa 500

ggaaaaagga aactggaagg aaaaccattg cgatttcgtg gtgtacatca 550

tgcatttgca aaaatcttag ctgaaggagg aatacgaggg ctttgggcag 600

gctgggtacc caatatacaa agagcagcac tggatgaat gggagattta 650

accacttatg atacagtga acactacttg gtattgaata caccactga 700

ggacaatatc atgactcacg gtttatcaag tttatgttct ggactggtag 750

cttctattct gggaacacca gccgatgtca tcaaaagcag aataatgaat 800

caaccacgag ataaacaagg aaggggactt ttgtataaat catcgactga 850

ctgcttgatt caggctgttc aaggtgaagg attcatgagt ctatataaag 900

gctttttacc atcttggctg agaatgaccc ctgtgtcaat ggtgttctgg 950

cttacttatg aaaaaatcag agagatgagt ggagtcagtc cattttaa 998

<210> 406

<211> 323

<212> PRT

<213> Homo sapiens

<400> 406

Met Ser Val Pro Glu Glu Glu Glu Arg Leu Leu Pro Leu Thr Gln

1 5 10 15

Arg Trp Pro Arg Ala Ser Lys Phe Leu Leu Ser Gly Cys Ala Ala

20 25 30

Thr Val Ala Glu Leu Ala Thr Phe Pro Leu Asp Leu Thr Lys Thr

35 40 45

Arg Leu Gln Met Gln Gly Glu Ala Ala Leu Ala Arg Leu Gly Asp

50 55 60

Gly Ala Arg Glu Ser Ala Pro Tyr Arg Gly Met Val Arg Thr Ala

65 70 75

Leu Gly Ile Ile Glu Glu Glu Gly Phe Leu Lys Leu Trp Gln Gly

80 85 90

Val Thr Pro Ala Ile Tyr Arg His Val Val Tyr Ser Gly Gly Arg

95 100 105

Met Val Thr Tyr Glu His Leu Arg Glu Val Val Phe Gly Lys Ser

110 115 120

Glu Asp Glu His Tyr Pro Leu Trp Lys Ser Val Ile Gly Gly Met  
125 130 135

Met Ala Gly Val Ile Gly Gln Phe Leu Ala Asn Pro Thr Asp Leu  
140 145 150

Val Lys Val Gln Met Gln Met Glu Gly Lys Arg Lys Leu Glu Gly  
155 160 165

Lys Pro Leu Arg Phe Arg Gly Val His His Ala Phe Ala Lys Ile  
170 175 180

Leu Ala Glu Gly Gly Ile Arg Gly Leu Trp Ala Gly Trp Val Pro  
185 190 195

Asn Ile Gln Arg Ala Ala Leu Val Asn Met Gly Asp Leu Thr Thr  
200 205 210

Tyr Asp Thr Val Lys His Tyr Leu Val Leu Asn Thr Pro Leu Glu  
215 220 225

Asp Asn Ile Met Thr His Gly Leu Ser Ser Leu Cys Ser Gly Leu  
230 235 240

Val Ala Ser Ile Leu Gly Thr Pro Ala Asp Val Ile Lys Ser Arg  
245 250 255

Ile Met Asn Gln Pro Arg Asp Lys Gln Gly Arg Gly Leu Leu Tyr  
260 265 270

Lys Ser Ser Thr Asp Cys Leu Ile Gln Ala Val Gln Gly Glu Gly  
275 280 285

Phe Met Ser Leu Tyr Lys Gly Phe Leu Pro Ser Trp Leu Arg Met  
290 295 300

Thr Pro Trp Ser Met Val Phe Trp Leu Thr Tyr Glu Lys Ile Arg  
305 310 315

Glu Met Ser Gly Val Ser Pro Phe  
320

<210> 407

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 407

cgcggatccc gttatcgtct tgcgtactg c 31

<210> 408

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 408

gcggaattct taaaatggac tgactccact catc 34

<210> 409

<211> 1487

<212> DNA

<213> Homo sapiens

<400> 409

cggacgcgtg ggcgcgggac gccggcaggg ttgtggcgca gcagtctcct 50

tcctgcgcgc gcgcctgaag tcggcgtggg cgtttgagga agctgggata 100

cagcatttaa tgaaaaatgt atgcttaaga agtaaaaatg gcaggcttcc 150

tagataattt tcgttgcca gaatgtgaat gtattgactg gaggtagaga 200

agaaatgctg tggcatctgt tgcgcaggt atattgttt ttacaggctg 250

gtggataatg attgatgcag ctgtggtgta tcctaagcca gaacagttga 300

accatgcctt tcacacatgt ggtgtatttt ccacattggc ttcttcatg 350

ataaatgctg tatccaatgc tcaggtagaga ggtgatagct atgaaagcgg 400

ctgttttagga agaacagggt ctcgagtttg gcttttcatt ggtttcatgt 450

tgatgtttgg gtcacttatt gcttccatgt ggattctttt tggtagcatat 500

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ttaaaaagaa ttctctaat atgactttat gtgagaa 1487

<210> 410

<211> 158

<212> PRT

<213> Homo sapiens

<400> 410

Met Ala Gly Phe Leu Asp Asn Phe Arg Trp Pro Glu Cys Glu Cys  
1 5 10 15

Ile Asp Trp Ser Glu Arg Arg Asn Ala Val Ala Ser Val Val Ala  
20 25 30

Gly Ile Leu Phe Phe Thr Gly Trp Trp Ile Met Ile Asp Ala Ala  
35 40 45

Val Val Tyr Pro Lys Pro Glu Gln Leu Asn His Ala Phe His Thr  
50 55 60

Cys Gly Val Phe Ser Thr Leu Ala Phe Phe Met Ile Asn Ala Val  
65 70 75

Ser Asn Ala Gln Val Arg Gly Asp Ser Tyr Glu Ser Gly Cys Leu  
80 85 90

Gly Arg Thr Gly Ala Arg Val Trp Leu Phe Ile Gly Phe Met Leu  
95 100 105

Met Phe Gly Ser Leu Ile Ala Ser Met Trp Ile Leu Phe Gly Ala  
110 115 120

Tyr Val Thr Gln Asn Thr Asp Val Tyr Pro Gly Leu Ala Val Phe  
125 130 135

Phe Gln Asn Ala Leu Ile Phe Phe Ser Thr Leu Ile Tyr Lys Phe  
140 145 150

Gly Arg Thr Glu Glu Leu Trp Thr  
155

<210> 411

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 411

gtttgaggaa gctgggatac 20

<210> 412  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 412  
ccaaactcga gcacctgttc 20

<210> 413  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 413  
atggcaggct tctagataa ttttcgttgg ccagaatgtg 40

<210> 414  
<211> 1337  
<212> DNA  
<213> Homo sapiens

<400> 414  
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actgcatcta gaggagggcc gtctgtgagg ccactacccc tccagcaact 150  
gggaggtggg actgtcagaa gctggcccag ggtggtggtc agctgggtca 200  
gggacctacg gcacctgctg gaccacctcg ccttctccat cgaagcaggg 250  
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acctggacag gatgagagtgc tcaggtgtgc ttcgcctcct ggcctcctc 350  
tttgcctag tcacgacatg gatgtttatt cgaagctaca tgagcttcag 400  
catgaaaacc atccgtctgc cagctggct ggcagcctcg cccaccaagg 450



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 accagctgtc tgtggagaga atgggggtgct ttcgtcaggg actgctgacg 1250  
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 tatttttgct ggttttgaaa aaaaaaaaaa aaaaaaa 1337

<210> 415

<211> 224

<212> PRT

<213> Homo sapiens

<400> 415

Met Arg Val Ser Gly Val Leu Arg Leu Leu Ala Leu Ile Phe Ala

1

5

10

15

Ile Val Thr Thr Trp Met Phe Ile Arg Ser Tyr Met Ser Phe Ser  
20 25 30

Met Lys Thr Ile Arg Leu Pro Arg Trp Leu Ala Ala Ser Pro Thr  
35 40 45

Lys Glu Ile Gln Val Lys Lys Tyr Lys Cys Gly Leu Ile Lys Pro  
50 55 60

Cys Pro Ala Asn Tyr Phe Ala Phe Lys Ile Cys Ser Gly Ala Ala  
65 70 75

Asn Val Val Gly Pro Thr Met Cys Phe Glu Asp Arg Met Ile Met  
80 85 90

Ser Pro Val Lys Asn Asn Val Gly Arg Gly Leu Asn Ile Ala Leu  
95 100 105

Val Asn Gly Thr Thr Gly Ala Val Leu Gly Gln Lys Ala Phe Asp  
110 115 120

Met Tyr Ser Gly Asp Val Met His Leu Val Lys Phe Leu Lys Glu  
125 130 135

Ile Pro Gly Gly Ala Leu Val Leu Val Ala Ser Tyr Asp Asp Pro  
140 145 150

Gly Thr Lys Met Asn Asp Glu Ser Arg Lys Leu Phe Ser Asp Leu  
155 160 165

Gly Ser Ser Tyr Ala Lys Gln Leu Gly Phe Arg Asp Ser Trp Val  
170 175 180

Phe Ile Gly Ala Lys Asp Leu Arg Gly Lys Ser Pro Phe Glu Gln  
185 190 195

Phe Leu Lys Asn Ser Pro Asp Thr Asn Lys Tyr Glu Gly Trp Pro  
200 205 210

Glu Leu Leu Glu Met Glu Gly Cys Met Pro Pro Lys Pro Phe  
215 220

<210> 416

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 416

gccatagtca cgacatggat g 21

<210> 417

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 417

ggatggccag agctgctg 18

<210> 418

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 418

aaagtacaag tgtggcctca tcaagc 26

<210> 419

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 419

tctgactcct aagtcaggca ggag 24

<210> 420

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 420

attctctcca cagacagctg gttc 24

<210> 421

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 421

gtacaagtgt ggctcatca agccctgccc agccaactac ttgcg 46

<210> 422

<211> 1701

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> 1528

<223> unknown base

<400> 422

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tgtcctgggg atccagaaac ccatgatacc ctactgaaca ccgaatcccc 100

tggaagccca cagagacaga gacagcaaga gaagcagaga taaatacact 150

cacgccagga gctcgctcgc tctctctctc tctctctcac tctccctcc 200

ctctctctct gcctgtccta gtctcttagt cctcaaattc ccagtccct 250

gcaccccttc ctgggacact atgttgttct ccgccctcct gctggaggtg 300

atttgatcc tggctgcaga tgggggtcaa cactggacgt atgagggcc 350

acatggtcag gaccattggc cagccttta ccctgagtgt ggaaacaatg 400

cccagtcgcc catgatatt cagacagaca gtgtgacatt tgaccctgat 450

ttgcctgctc tgcagcccca cggatatgac cagcctggca ccgagccttt 500  
ggacctgcac aacaatggcc acacagtga actctctctg ccctctaccc 550  
tgtatctggg tggacttccc cgaaaatatg tagctgcca gctccacctg 600  
cactggggtc agaaaggatc cccagggggg tcagaacacc agatcaacag 650  
tgaagccaca ttgcagage tccacattgt acattatgac tctgattcct 700  
atgacagctt gagtgggct gctgagaggc ctcagggcct ggctgtcctg 750  
ggcatcctaa ttgaggtggg tgagactaag aatatagctt atgaacacat 800  
tctgagtcac ttgcatgaag tcaggcataa agatcagaag acctcagtgc 850  
ctcccttcaa cctaagagag ctgctcccca aacagctggg gcagtacttc 900  
cgctacaatg gctcgtcac aactccccct tgetaccaga gtgtgctctg 950  
gacagtttt tatagaaggt cccagatttc aatggaacag ctggaaaagc 1000  
ttcaggggac attgttctcc acagaagagg agccctctaa gcttctgta 1050  
cagaactacc gagcccttca gcctctcaat cagcgcattg tcttgcttc 1100  
tttcatcaa gcaggatcct cgtataccac aggtgaaatg ctgagtctag 1150  
gtgtaggaat cttggttggc tctctctgcc ttctcctggc tgtttatttc 1200  
attgctagaa agattcggaa gaaggaggctg gaaaaccgaa agagtgtggt 1250  
cttcacctca gcacaagcca cgactgaggc ataaattcct tctcagatac 1300  
catggatgtg gatgacttcc ctcatgcct atcaggaagc ctctaaaatg 1350  
gggtgtagga tctggccaga aacctgtag gtagtagtaag cagatgtcct 1400  
ccttcccctg gacatctctt agagaggaat ggaccaggc tgcattcca 1450  
ggaagaactg cagagccttc agcctctcca aacatgtagg aggaaatgag 1500  
gaaatcgctg tgtgttaat gcagaganca aactctgttt agttgcaggg 1550  
gaagtttggg atatacccca aagtcctcta cccctcact tttatggccc 1600

tttcctaga tatactgcgg gatctctcct taggataaag agttgctgtt 1650

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t 1701

<210> 423

<211> 337

<212> PRT

<213> Homo sapiens

<400> 423

Met Leu Phe Ser Ala Leu Leu Leu Glu Val Ile Trp Ile Leu Ala

1 5 10 15

Ala Asp Gly Gly Gln His Trp Thr Tyr Glu Gly Pro His Gly Gln

20 25 30

Asp His Trp Pro Ala Ser Tyr Pro Glu Cys Gly Asn Asn Ala Gln

35 40 45

Ser Pro Ile Asp Ile Gln Thr Asp Ser Val Thr Phe Asp Pro Asp

50 55 60

Leu Pro Ala Leu Gln Pro His Gly Tyr Asp Gln Pro Gly Thr Glu

65 70 75

Pro Leu Asp Leu His Asn Asn Gly His Thr Val Gln Leu Ser Leu

80 85 90

Pro Ser Thr Leu Tyr Leu Gly Gly Leu Pro Arg Lys Tyr Val Ala

95 100 105

Ala Gln Leu His Leu His Trp Gly Gln Lys Gly Ser Pro Gly Gly

110 115 120

Ser Glu His Gln Ile Asn Ser Glu Ala Thr Phe Ala Glu Leu His

125 130 135

Ile Val His Tyr Asp Ser Asp Ser Tyr Asp Ser Leu Ser Glu Ala

140 145 150

Ala Glu Arg Pro Gln Gly Leu Ala Val Leu Gly Ile Leu Ile Glu

155 160 165

Val Gly Glu Thr Lys Asn Ile Ala Tyr Glu His Ile Leu Ser His  
170 175 180

Leu His Glu Val Arg His Lys Asp Gln Lys Thr Ser Val Pro Pro  
185 190 195

Phe Asn Leu Arg Glu Leu Leu Pro Lys Gln Leu Gly Gln Tyr Phe  
200 205 210

Arg Tyr Asn Gly Ser Leu Thr Thr Pro Pro Cys Tyr Gln Ser Val  
215 220 225

Leu Trp Thr Val Phe Tyr Arg Arg Ser Gln Ile Ser Met Glu Gln  
230 235 240

Leu Glu Lys Leu Gln Gly Thr Leu Phe Ser Thr Glu Glu Glu Pro  
245 250 255

Ser Lys Leu Leu Val Gln Asn Tyr Arg Ala Leu Gln Pro Leu Asn  
260 265 270

Gln Arg Met Val Phe Ala Ser Phe Ile Gln Ala Gly Ser Ser Tyr  
275 280 285

Thr Thr Gly Glu Met Leu Ser Leu Gly Val Gly Ile Leu Val Gly  
290 295 300

Cys Leu Cys Leu Leu Leu Ala Val Tyr Phe Ile Ala Arg Lys Ile  
305 310 315

Arg Lys Lys Arg Leu Glu Asn Arg Lys Ser Val Val Phe Thr Ser  
320 325 330

Ala Gln Ala Thr Thr Glu Ala  
335

<210> 424

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 424

gtaaagtcgc tggccagc 18

<210> 425

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 425

cccgatctgc ctgctgta 18

<210> 426

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 426

ctgcactgta tggccattat tgtg 24

<210> 427

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 427

cagaaacca tgatacccta ctgaacaccg aatcccctgg aagcc 45

<210> 428

<211> 1073

<212> DNA

<213> Homo sapiens

<400> 428

aatttttcac cagagtaaac ttgagaaacc aactggacct tgagtattgt 50

acattttgcc tcgtggaccc aaaggtagca atctgaaaca tgaggagtac 100



gattctactg tttgtcttc taggatcaac tcggtcatta ccacagctca 150  
aacctgcttt gggactccct cccacaaaac tggctccgga tcagggaaca 200  
ctaccaaacc aacagcagtc aaatcaggtc ttctcttctt taagtctgat 250  
accattaaca cagatgetca cactggggcc agatctgcat ctgttaaate 300  
ctgctgcagg aatgacacct ggtaccaga cccaccatt gacctggga 350  
gggttgaatg tacaacagca actgcacca catgtgttac caattttgt 400  
cacacaactt ggagcccagg gcactatcct aagctcagag gaattgccac 450  
aaatcttcac gagectcacc atccattcct tgtcccggg aggcacctg 500  
cccaccagtc aggcaggggc taatccagat gtccaggatg gaagccttc 550  
agcaggagga gcaggtgtaa atcctgccac ccagggaacc ccagcaggcc 600  
gcctcccaac tccagtggc acagatgacg actttgcagt gaccaccct 650  
gcaggcatcc aaaggagcac acatgccac gaggaagcca ccacagaate 700  
agcaaatgga attcagtaag ctgtttcaaa tttttcaac taagctgcct 750  
cgaatttggg gatacatgtg aatctttatc attgattata ttatggaata 800  
gattgagaca cattggatag tcttagaaga aattaattct taatttacct 850  
gaaaatattc ttgaaattc agaaaatatg ttctatgtag agaatcccaa 900  
cttttaaaaa caataattca atggataaat ctgtctttga aatataacat 950  
tatgctgcct ggatgatatg catattaaaa catatttga aaactggaaa 1000  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1050  
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<210> 429

<211> 209

<212> PRT

<213> Homo sapiens

<400> 429

Met Arg Ser Thr Ile Leu Leu Phe Cys Leu Leu Gly Ser Thr Arg  
1 5 10 15

Ser Leu Pro Gln Leu Lys Pro Ala Leu Gly Leu Pro Pro Thr Lys  
20 25 30

Leu Ala Pro Asp Gln Gly Thr Leu Pro Asn Gln Gln Gln Ser Asn  
35 40 45

Gln Val Phe Pro Ser Leu Ser Leu Ile Pro Leu Thr Gln Met Leu  
50 55 60

Thr Leu Gly Pro Asp Leu His Leu Leu Asn Pro Ala Ala Gly Met  
65 70 75

Thr Pro Gly Thr Gln Thr His Pro Leu Thr Leu Gly Gly Leu Asn  
80 85 90

Val Gln Gln Gln Leu His Pro His Val Leu Pro Ile Phe Val Thr  
95 100 105

Gln Leu Gly Ala Gln Gly Thr Ile Leu Ser Ser Glu Glu Leu Pro  
110 115 120

Gln Ile Phe Thr Ser Leu Ile Ile His Ser Leu Phe Pro Gly Gly  
125 130 135

Ile Leu Pro Thr Ser Gln Ala Gly Ala Asn Pro Asp Val Gln Asp  
140 145 150

Gly Ser Leu Pro Ala Gly Gly Ala Gly Val Asn Pro Ala Thr Gln  
155 160 165

Gly Thr Pro Ala Gly Arg Leu Pro Thr Pro Ser Gly Thr Asp Asp  
170 175 180

Asp Phe Ala Val Thr Thr Pro Ala Gly Ile Gln Arg Ser Thr His  
185 190 195

Ala Ile Glu Glu Ala Thr Thr Glu Ser Ala Asn Gly Ile Gln  
200 205

<210> 430

<211> 1257

<212> DNA

<213> Homo Sapien

<400> 430

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cggagcgcgg cggagccaga cgtgaccac gttcctctcc tcggtctcct 100  
ccgcctccag ctccgcgtg cccggcagcc gggagccatg cgaccccagg 150  
gccccgccgc ctccccgcag cggctccgcg gcctcctgct gctcctgctg 200  
ctgcagctgc ccgcgccgtc gagcgcctct gagatcccca aggggaagca 250  
aaaggcgcag ctccggcaga gggagggtgt ggacctgtat aatggaatgt 300  
gcttacaagg gccagcagga gtgcctggtc gagacgggag ccctggggcc 350  
aatgttattc cgggtacacc tgggatccca ggtcgggatg gattcaaagg 400  
agaaaagggg gaatgtctga gggaaagctt tgaggagtcc tggacacca 450  
actacaagca gtgttcattg agttcattga attatggcat agatcttggg 500  
aaaattgcgg agtgtacatt tacaagatg cgttcaaata gtgctctaag 550  
agttttgttc agtggctcac ttcggctaaa atgcagaaat gcatgctgtc 600  
agcgttggtg tticacattc aatggagctg aatgttcagg acctcttccc 650  
attgaagcta taatttattt ggaccaagga agccctgaaa tgaattcaac 700  
aattaatatt catcgcaatt ctctgtgga aggactttgt gaaggaattg 750  
gtgctggatt agtggatgtt gctatctggg ttggcacttg ttcagattac 800  
ccaaaaggag atgcttctac tggatggaat tcagtttctc gcatcattat 850  
tgaagaacta ccaaataaaa tgctttaatt ttcatttgc acctcttttt 900  
ttattatgcc ttggaatggt tcacttaa atgacattttaa ataagtttat 950  
gtatacatct gaatgaaaag caaagctaaa tatgtttaca gaccaaagt 1000  
tgatttaca ctgtttttaa atctagcatt attcatttg cttcaatcaa 1050

aagtggtttc aatattttt ttagttgggtt agaatacttt cttcatagtc 1100  
acattctctc aacctataat ttggaatatt gttgtggtct tttgttttt 1150  
ctcttagtat agcattttta aaaaaatata aaagctacca atctttgtac 1200  
aatttgtaaa tgtaagaat ttttttata tctgttaa ataaaattatt 1250  
tccaaca 1257

<210> 431  
<211> 243  
<212> PRT  
<213> Homo Sapien

<400> 431  
Met Arg Pro Gln Gly Pro Ala Ala Ser Pro Gln Arg Leu Arg Gly  
1 5 10 15  
Leu Leu Leu Leu Leu Leu Gln Leu Pro Ala Pro Ser Ser Ala  
20 25 30  
Ser Glu Ile Pro Lys Gly Lys Gln Lys Ala Gln Leu Arg Gln Arg  
35 40 45  
Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala  
50 55 60  
Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Val Ile Pro  
65 70 75  
Gly Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys  
80 85 90  
Gly Glu Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn  
95 100 105  
Tyr Lys Gln Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu  
110 115 120  
Gly Lys Ile Ala Glu Cys Thr Phe Thr Lys Met Arg Ser Asn Ser  
125 130 135  
Ala Leu Arg Val Leu Phe Ser Gly Ser Leu Arg Leu Lys Cys Arg  
140 145 150

Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr Phe Asn Gly Ala Glu  
155 160 165

Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile Tyr Leu Asp Gln  
170 175 180

Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His Arg Thr Ser  
185 190 195

Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu Val Asp  
200 205 210

Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly Asp  
215 220 225

Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Ile Glu Glu  
230 235 240

Leu Pro Lys

<210> 432

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 432

aggacttgcc ctcaggaa 18

<210> 433

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 433

cgcaggacag ttgtgaaaat a 21

<210> 434

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 434

atgacgctcg tccaaggcca c 21

<210> 435

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 435

cccacctgta ccacatgt 19

<210> 436

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 436

actccaggca ccactgttc tccc 24

<210> 437

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 437

aagggtggc attcaagtc 19

<210> 438

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 438

tgacctggca aaggaagaa 19

<210> 439

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 439

cagccaccct ccagtccaag g 21

<210> 440

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 440

gggtcgtgtt ttggagaga 19

<210> 441

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 441

ctggccctca gagcaccaat 20

<210> 442

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 442

tcctccatca cttcccctag ctcca 25

<210> 443

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 443

ctggcaggag ttaaagttcc aaga 24

<210> 444

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 444

aaaggacacc gggatgtg 18

<210> 445

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 445

agcgtacact ctctccaggc aaccag 26

<210> 446

<211> 22

<212> DNA

<213> Artificial Sequence

<220>



<223> Synthetic oligonucleotide probe

<400> 446

caattctgga tgaggtggta ga 22

<210> 447

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 447

caggactgag cgcttggtta 20

<210> 448

<211> 21

<212> DNA

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<220>

<223> Synthetic oligonucleotide probe

<400> 448

caaagcgcca agtaccggac c 21

<210> 449

<211> 18

<212> DNA

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<220>

<223> Synthetic oligonucleotide probe

<400> 449

ccagacctca gccaggaa 18

<210> 450

<211> 18

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<400> 450

ccctagctga ccccttca 18

<210> 451

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

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<400> 451

tctgacaagc agttttctga atc 23

<210> 452

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 452

ctctccccct cccttttctt ttgttt 26

<210> 453

<211> 18

<212> DNA

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<400> 453

ctctggtgcc cacagtga 18

<210> 454

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 454

ccatgcctgc tcagccaaga a 21

<210> 455

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 455

caggaaatct ggaaacctac agt 23

<210> 456

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 456

ccttgaaaag gaccagttt 20

<210> 457

<211> 22

<212> DNA

<213> Artificial Sequence

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<400> 457

atgagtcgca cctgctgttc cc 22

<210> 458

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 458

tagcagctgc ccttgta 18

<210> 459

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 459

aacagcaggt gcgactcatc ta 22

<210> 460

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 460

tgctaggcga cgacaccag acc 23

<210> 461

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 461

tggacacgtg gcagtgga 18

<210> 462

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 462

tcatgtctc gtccattc 19

<210> 463

<211> 27  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 463  
caccatttgt ttctgtgtct ccccatc 27

<210> 464  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 464  
ccggcatcct tggagtag 18

<210> 465  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 465  
tccccattag cacaggagta 20

<210> 466  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Synthetic oligonucleotide probe

<400> 466  
aggctcttgc ctgtcctgct gct 23

<210> 467  
<211> 18

<212> DNA  
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<220>  
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<400> 467  
gccagagtc ccacttgt 18

<210> 468  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 468  
actgctccgc ctactacga 19

<210> 469  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 469  
aggcatcctc gccgtcctca 20

<210> 470  
<211> 19  
<212> DNA  
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<220>  
<223> Synthetic oligonucleotide probe

<400> 470  
aaggccaagg tgagtccat 19

<210> 471  
<211> 20  
<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 471

cgagtgtgtg cgaaacctaa 20

<210> 472

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 472

tcagggtcta catcagcctc ctgc 24

<210> 473

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 473

aaggccaagg tgagtccat 19

<210> 474

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 474

cctactgagg agccctatgc 20

<210> 475

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 475

tccaggtgga cccacttca gg 22

<210> 476

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 476

gggaggctta taggcccaat ctgg 24

<210> 477

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide probe

<400> 477

ggcttcagca gcacgtgtga agtcgaagtc gcagtcacag atatcaatga 50